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ABSTRACT

This conference report is divided into two sections, as was the conference. The first section treats professional standards for aquatic education. Covered in detailed outlines of premises and skills are professional standards for the physical educator, the aquatic instructor, the aquatic specialist, and the aquatic administrator. The second section is devoted to approaches and criteria for certification of the aquatic educator. Included are the texts of addresses delivered at the conference, which range from skin and scuba diving through synchronized swimming and aquatic facilities management to small craft and open water activities. (JA)

SECOND NATIONAL AQUATIC CONFERENCE ON PROFESSIONAL STANDARDS IN AQUATICS AND APPROACHES TO CERTIFICATION

OCTOBER 22-25, 1971
LONG BEACH, CALIFORNIA

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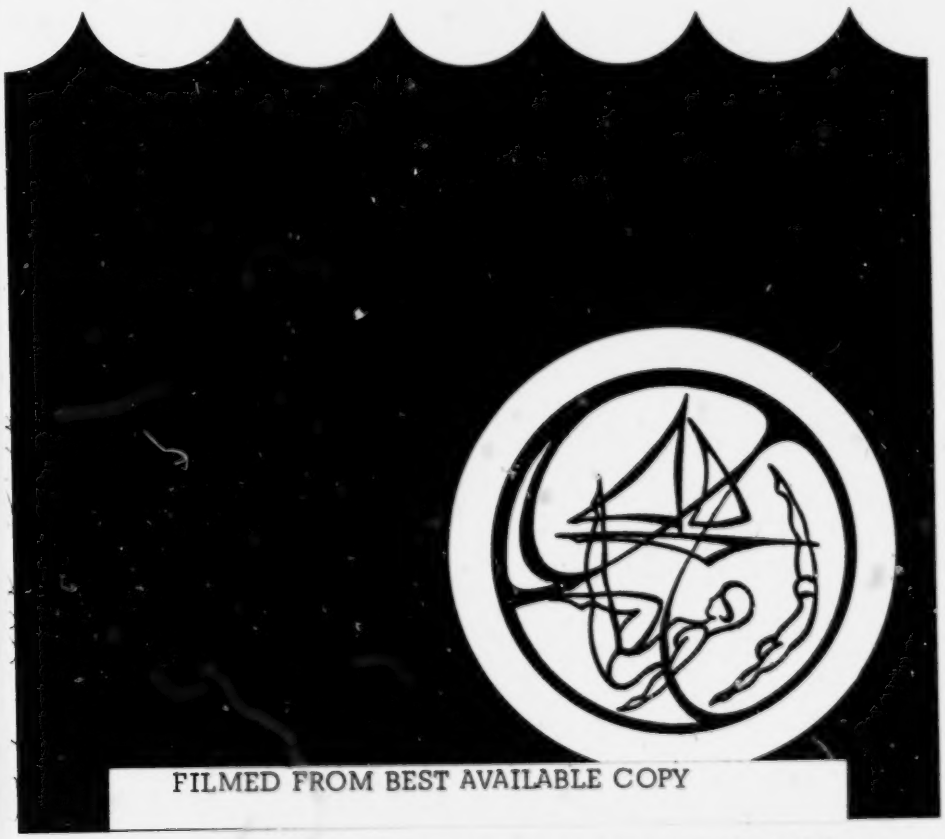

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IN MEMORIAM

Those who had the pleasure of knowing and working with Myrtle S. Spande knew her as a diminutive bundle of enthusiasm with an unlimited capacity for materializing ideas into action. She had a gift for coordinating the efforts of a group into meaningful purpose and visible achievement. Her work reflected a real love for people coupled with a deep pride in the profession for which she worked so steadfastly. No group benefited more from her gifts and dedication than the Aquatics Council, to which she acted as Consultant. Myrtle was a member of the 1967-68 Aquatics Section Long Range Planning Committee, which met at Broom Field, Colorado, to make the plans which resulted in the Aquatics Section achieving Council status. She served in the vital roles of Consultant and member of the Conference Planning Committee for the First National Aquatics Conference on Professional Standards. Prior to her illness, she was a member of the Conference Planning Committee for the Second National Aquatics Conference on Professional Standards in Aquatics and Approaches to Certification.

It is appropriate that the Aquatics Council pay the tribute of dedicating the proceedings of the Second National Aquatics Conference to the memory of this exceptional colleague. In honoring Myrtle S. Spande's memory, we are humbly aware of how difficult it will be to fill her place and of how sorely we shall miss the contributions of "the little lady from Minnesota."

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FOREWORD

In February 1970, the Aquatics Council of the General Division of AAHPER sponsored the First National Aquatics Conference on Professional Standards in Washington, D.C. Its purpose was to explore the professional preparation of aquatic personnel. The conference was a great success, for it was the first time aquatic enthusiasts had converged on such a large scale to explore a national problem of importance. When the conference dispersed, the leaders realized that that was just the beginning, and that future conferences must be held to polish the results of the Washington conference and explore other matters of importance to aquatic educators.

After nearly two years of planning, the Second National Aquatics Conference on Professional Standards for Aquatics Education took place at Long Beach, California, on October 22-25, 1971. Its purpose was to refine and expand the professional standards for the aquatic educator established during the Washington, D.C. conference and to explore approaches to certification of aquatics personnel.

The conferees comprised a truly representative group of aquatic leaders. They journeyed from 31 states, the District of Columbia, Canada, and the Virgin Islands.

Of the 162 conference participants (152 adults, 10 students), 90 represented institutions of higher education and 21 represented

public schools. The remaining 51 represented such groups as the: Red Cross, President's Council on Physical Fitness and Sports, YMCA, CNCA, Girl Scouts, and Amateur Athletic Union, Department of Education (Virgin Islands), special schools for the handicapped, and city recreation departments. California had the largest delegation with 46; Illinois was second with 10; Washington had 9; New York had 8; and Minnesota had 7 aquatic representatives.

The conference was divided into two parts. Part one dealt with the refinement and endorsement of professional standards for aquatic education. Twelve preselected committees under the guidance of their chairmen worked feverishly to carry out their assignments. These committees, composed of many of the nation's outstanding aquatic leaders, dealt with professional standards for the physical educator; the instructor of swimming, springboard diving, handicapped, skin and SCUBA diving, small craft and open water activity, competitive swimming, synchronized swimming, water polo, lifeguarding, and aquatic facilities management; the aquatic specialist; and the aquatic administrator. The committee reports were later presented to the General Assembly for response, revision, and endorsement.

Part two of the conference was opened up to additional participants. In addition to endorsing the work of the group which met on October 22 and 23, this part of the conference specifically considered approaches to and criteria for certification of the professional aquatic educator. Discussion groups were formed to consider the aquatic areas listed above. With an outstanding speaker to address each specialized group and whet the intellectual appetites of the conferees and a chairman to guide discussion, the groups set out to accomplish their objectives. Chairmen of the discussion groups told the General Assembly their groups' recommended approaches to certification. In addition, a special committee recommended general procedures for implementing the certification of aquatic personnel.

These proceedings contain the endorsed reports on "Professional Standards for Aquatics Education," recommended "Approaches and Criteria for Certification of the Professional Aquatics Educator," and "Report of the Committee on Implementation of the Certification of the Professional Aquatics Educator" as well ar various addresses. It is hoped that they will provide essential guidance to unify, strengthen, and improve the quality of aquatic education in the United States.

John L. Cramer, Hamline University
Conference Editor

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PARADIGM DENOTING OUTCOMES OF LONG BEACH CONFERENCE

Formulation of Professional Standards for Aquatics Education			
Physical Educators	Instructors 1. Swimming 2. Springboard Diving 3. Handicapped 4. Skin and SCUBA Diving 5. Small Craft and Open Water Activity 6. Competitive Swimming 7. Synchronized Swimming 8. Water Polo 9. Lifeguarding 10. Aquatics Facilities Management	Aquatics Specialists	Aquatics Administrators
Recommendations for Implementation of Above Standards			

Professional Standards for Aquatic Education

Belmont Plaza Olympic Pool, Long Beach, California.

Professional Standards for the Physical Educator

Chairman: BARBARA YAGER, University of Northern Iowa, Cedar Falls
Recorder: JULIA BROWN, University of Wisconsin, Madison

I. Premises
   A. Aquatics offers a medium in which unique human movement patterns occur, and therefore should be experienced by all physical education teachers.
   B. There is need for more widespread appreciation and knowledge of the field of aquatics because of the increased number, depth, and breadth of aquatic programs.
   C. The need for learning personal safety skills and procedures is indicated because of the increasing number of people engaging in aquatic activities.
   D. It is recommended that:
      1. All physical education majors have an exposure to aquatic activities regardless of their intent to teach aquatic activity
      2. This exposure afford an opportunity to acquire:
         a) Practical experience in and theoretical knowledge of basic skills
         b) Knowledge of the scope of the aquatic field
      3. Students who are proficient in basic aquatic skills

be encouraged to advance their level of skill and broaden their participation

4. Professional preparation programs include opportunities for laboratory experiences in aquatics
5. Guidelines be interpreted as permitting some degree of flexibility by the sponsoring institution
6. Student with only this basic exposure not be qualified to take a position of responsibility in aquatics.

II. Basic Skills

A. Physical educators should possess the following skills:

1. Breath control -- to the extent that alternative breathing with stroking, surface diving, and underwater swimming are done comfortably
2. Body control in the aquatic environment
3. Buoyancy skills such as drownproofing (survival floating)
4. Finning and sculling
5. Changing directions and body positions
6. Stroke performance:
   a) Technique - 20 yds. each of four of the following six strokes, including at least one on the back; front crawl, back crawl, butterfly, elementary back, breaststroke, sidestroke
   b) Endurance - five-minute continuous swim
7. Surface dive, pick up object from 8-foot depth
8. Underwater swim of three body lengths
9. Treading for three minutes
10. Entries - head first and feet first
11. Safety skills:
    a) personal safety
    b) meeting emergencies:
       (1) Self-rescue
       (2) Non-swimming rescue
       (3) Elementary forms of rescue
       (4) Resuscitation.

III. Knowledges and Understandings

A. Physical educators should be familiar with:

1. Quality performances in swimming and diving
2. Principles of movement as applied to aquatics
3. Aquatic terminology
4. Psychological factors
5. Small craft safety
6. Health factors
7. Safety procedures

8. Equipment unique to aquatic activities
9. Emergency procedures such as resuscitation and first aid
10. Scope of the field, including employment and career opportunities
11. Resource materials
12. Safety and sanitation facilities.

IV. Methodology
A. All appropriate professional preparation courses such as administration, kinesiology, methods, physiology of exercise, and psychology of learning, should include illustrations in reference to aquatics.

V. Programs
A. The physical educator with only a basic exposure to aquatics should not assume responsibility for any phase of the aquatic program.

VI. Equipment and Facilities
A. Primary consideration should be given to safety and sanitation.

Professional Standards for the Aquatic Instructor

Topic: INSTRUCTOR OF SWIMMING
Chairman: WES ENGLAND, Long Beach Red Cross, Long Beach, California
Recorder: ROSE CHAPMAN, Indiana University, Bloomington

I. Premises
   A. There is a need for upgrading the swimming instruction program.
   B. There is a need to go beyond the current training programs for instructors.
   C. Since there is great diversity in programs, the swimming instructor curriculum must provide competencies in instructional methods based on learning theories and knowledge of stroke and skill analysis.

II. Basic Skills
   A. A current senior lifesaving certificate should be prerequisite to an Instructor of Swimming course.
   B. The swimming instructor should achieve certain swimming and water safety skills, including the following:
      1. Performance ability in orienting oneself to water, body positions, floating, and propulsion
      2. Execution of basic strokes such as front crawl,

back crawl, sidestroke, breaststroke, elementary backstroke, and butterfly, plus additional stroke modifications such as overarm sidestroke, trudgen crawl, and inverted breaststroke

3. Ability in associated skills such as entries, surface diving, basic diving techniques, turns, water safety, and survival skills
4. Performance ability in teaching swimming
5. Maintenance of endurance and fitness commensurate with requirements of the facility being used and individual characteristics of persons taught.

III. Knowledges and Understandings

A. An instructor of swimming should know:

1. Principles of growth and development
2. Scientific principles of anatomy, physiology, and kinesiology
3. Theories of motor learning
4. Current research pertaining to learning skills
5. How to analyze strokes and skills
6. Innovations related to teaching skills
7. Methods and techniques of teaching swimming
8. Multimedia techniques of teaching swimming
9. Differences in levels of swimming programs.

IV. Methodology

A. An instructor should be able to:

1. Utilize various methods and approaches including part-whole, whole-part, movement exploration, kinesthetic-tactile, mental-physical practice, problem solving, and self-teaching
2. Plan progressions for teaching skills
3. Develop or utilize instructional aids and devices such as films, videotapes, or floatation devices
4. Utilize a variety of drills and formations in practice
5. Use valid and reliable measures to evaluate a swimmer's performance
6. Teach (have experience through some kind of practicum or internship).

V. Programs

A. The swimming instructor should know about the various swimming instruction programs presently being offered.

B. This includes knowledge of instruction programs for different age and skill levels, and programs offered by local and national agencies such as the American Red Cross, the YMCA, or other community programs.

VI. Equipment and Facilities
- A. The swimming instructor should be aware of the following:
  1. State and local safety laws
  2. State and local sanitation requirements
  3. Pool scheduling and management
  4. Maintenance needs
  5. New and efficient equipment.

Topic: INSTRUCTOR OF SPRINGBOARD DIVING
Chairman: DAVE GLANDER, Los Angeles State College, Los Angeles, California
Recorder: ANNE ROSS FAIRBANKS, Skidmore College, Saratoga Springs, New York.

I. Premises
- A. The diving specialist should have a basic knowledge of swimming and swimming instruction.
- B. He must be a trained lifesaver.

II. Basic Skills
- A. The diving specialist should be skilled in the following:
  1. The standard approach
  2. At least one dive of each of the five groups of diving (1-meter board)
  3. The three positions (tuck, pike, and layout)
  4. The forward and backward somersaults (1-meter board)

III. Knowledges and Understandings
- A. The diving specialist should comprehend the following:
  1. Safety and accident prevention
  2. The physical laws applicable to the use of the springboard and to the body in motion
  3. Large group muscle action
  4. Specifics of coaching diving
     a) Groups
     b) Positions
     c) Training methods
     d) Suggested progressions
     e) Related activities (trampoline, port-a-pit, dry land board)
  5. Officiating and judging
     a) Rules
     b) Techniques and philosoply of judging.

IV. Methodology

A. For instructional classes, emphasis should be given to the following:

1. Initial group instruction on basic land drills
2. Efficient analysis of individual performance
3. Communication to the diver of his orientation in space
4. Physical and mental readiness to perform new skills
5. Use of visual aids such as charts, films, and videotapes.

B. For competitive diving, additional emphasis should be placed on:

1. Use of exercise and conditioning programs
2. Exploitation of individual technique and style
3. Instruction in the fine points of balance, timing, entries, and saves
4. Development of a complete list of dives
5. Use of aids such as overhead belts, trampoline, port-a-pit, and dry land board.

V. Programs

A. Instructors should have knowledge in planning and administering instructional, recreational, and competitive programs.

B. This knowledge should pertain to 1- and 3-meter springboards and platform diving.

VI. Equipment and Facilities

A. Instructors of springboard diving should be cognizant of the following:

1. The national standards for safety, particularly with regard to new construction
2. Methods for safely adapting to substandard situations, where necessary
3. The responsibility for care and inspection of the diving facility and surroundings.

Topic: INSTRUCTOR OF THE HANDICAPPED
Chairman: GRACE REYNOLDS, YMCA, Longview, Washington
Recorder: JOAN MORAN, University of Utah, Salt Lake City

I. Premises

A. Aquatic activity provides a wide variety of experiences in which the handicapped can achieve worthwhile movements in an environment which broadens their opportunity for participation.

B. The basic values include:
   1. Physical fitness and motor development
   2. Recreational skills
   3. Improvement of self-concept
   4. Social skills.

C. Instructors should possess one of the following:
   1. Major and/or minor in physical education, recreation, or special education
   2. Certification from accrediting agencies such as the American Red Cross (Swimming Instructor for the Handicapped), YMCA (Swimming Instructor for the Handicapped), or equivalent -- with Senior Lifesaving certification as a minimum standard.

II. Basic Skills

A. Instructors should:
   1. Cooperate, demonstrate, and communicate with participants and other persons such as:
      a) Medical and paramedical personnel
      b) School personnel (teacher, principal, counselor, and nurse)
      c) Parents (guardians)
      d) Other agency personnel.
   2. Assess needs and prescribe necessary program modifications in teaching sequences and/or methods to the staff, and establish rapport with the students
   3. Establish a climate of empathy rather than sympathy with individuals
   4. Possess and communicate creative skills
   5. Conduct continuing preservice and in-service training programs for new staff, plus a continuing in-service training program for the instructors and their staff
   6. Administer standard first aid, operate wheelchairs, and use prosthetic devices.

III. Knowledges and Understandings

A. Instructors should comprehend the following:
   1. Scientific knowledge related to all aspects of human function
   2. Background knowledge necessary to the understanding of physical education, recreation, and special education needs of handicapped individuals
   3. Practical skills and competencies in aquatics
   4. Flexibility in the application of skills and skill sequences in the education of handicapped individuals
   5. Knowledge in three areas of aquatics, plus appreciation of the seven additional areas of skill

6. Recruiting, training, and supervising professional and volunteer staff
7. The necessity of working effectively with medical and paramedical personnel
8. Standard first aid, wheelchair operation, and use of prosthetic devices
9. Organization and function of as many of the following special aquatic programs as possible:
   a) Camps (day and residential)
   b) Clubs and special interest groups such as teen clubs
   c) Community centers, day care centers
   d) Government programs
   e) Playgrounds
   f) Public school special programs
   g) Scouting and related service groups, semi-private agencies (YMCA-YWCA, Jewish Community Centers)
   h) Special recreation programs and related activities
   i) Competition (Special Olympics, etc.)
   j) Other specialties.

IV. Methodology
   A. The instructors should have knowledge and practical experience in the use of swimming as a learning modality in the remediation of the movement problems of the handicapped.
   B. They should comprehend individualized instruction, team teaching, and innovative and creative approaches as they become necessary.
   C. Instructors should warn to use standard methods flexibly and effectively.

V. Program
   A. The instructors should be involved with as many programs of community agencies and organizations as possible.
   B. The instructor should include in his programs the following:
      1. Training for instructors, aides, and volunteers
      2. Family education and orientation
      3. Provisions for public relations and financial support
      4. Personal history and medical evaluation forms and records for programs, attendance, and accidents
      5. Reports to other involved members
      6. Motivation charts
      7. First aid and emergency procedures
      8. Insurance and liability
      9. Program evaluation.

VI. Equipment and Facilities

A. In planning for the handicapped, the following must be taken into account:

1. Building entrance, locker rooms, showers, and rest rooms able to accommodate wheelchairs
2. Pool lift
3. Warm water and warm air
4. Pool divisions according to use
5. Platforms, ramps
6. Recirculating system for water purity (water chemistry)
7. Variety of pool designs (flat bottom, gradual slope)
8. Adequate shallow to very shallow water
9. Portable pools
10. Telephones
11. Drinking fountains
12. Adequate deck space.

Topic: INSTRUCTOR OF SKIN AND SCUBA DIVING
Chairman: GLEN EGSTROM, University of California at Los Angeles
Recorder: LEE H. SOMERS, University of Michigan, Ann Arbor

I. Premises

A. The objective of skin and SCUBA diving programs is to develop safe, competent skin and SCUBA divers. The SCUBA instructor must be capable of teaching all of the theory and practical aspects of skin and SCUBA diving.

B. Skin and SCUBA diving is a broad and highly specialized activity which requires in-depth preparation in a variety of knowledge and skill areas.

C. Aquatic instructors in skin and SCUBA diving shall be certified. Certifications should be under the auspices of any national agency whose training standards meet or exceed those identified in this document.

D. SCUBA programs shall be conducted only by certified SCUBA instructors.

II. Basic skills

A. Skin diving instructors should possess the following skills:

1. Swimming (no equipment)
   a) Distance swim -- nonstop for 400 yards in less than 10 minutes
   b) Resting strokes -- 3 strokes of 25 yards each
   c) Survival swimming -- tread, bob, float, drown-proofing for 20 minutes

d) Underwater swim for 25 yards
e) Underwater swim with three breaths during swim for 50 yards
f) Ability to recover 10-pound object from 8 to 12 feet
g) Ability to tow person of equal size for 50 yards
h) Ability to demonstrate water entries, surface dives, and modified kicks

2. Skin diving (mask, fins, and snorkel)
   a) Distance swim -- 800 yards in less than 20 minutes
   b) Underwater swim for 30 yards
   c) Underwater swim with three breaths during swim for 50 yards
   d) Ability to recover 10-pound object from 8 to 16 feet
   e) Ability to tow person of equal size 100 yards
   f) Ability to recover and clear gear underwater on one breath (pass/fail)
   g) Ability to practice and perform proper techniques of:
      (1) Water entries
      (2) Surface dives
      (3) Kicks with fins
      (4) Underwater swimming
      (5) Surface swimming
      (6) Weight belt use (pass/fail)
   h) Complete rescue of diver (pass/fail)
   i) Various games, drills, and exercises -- as many as possible

3. Open water diving with mask, fins, snorkel (plus wet suit, weight belt, vest, and float if required)
   a) Water entries and exits
   b) Surface swimming
   c) Survival swimming
   d) Buoyancy control
   e) Surface dives
   f) Underwater swimming
   g) Ability to recover object from 10 to 20 feet of water
   h) Surfacing
   i) Ability to rescue and/or assist a diver
   j) Ability to take off and put on gear in water at surface
   k) Ability to use wet suit, weight belt, vest, and and float if required
   l) Maximum enjoyable activities.

B. SCUBA diving instructors should possess:
   1. The skills of the skin diving instructor
   2. All basic SCUBA certification skills
   3. A minimum age of 21 years
   4. Formal first aid and lifesaving training
   5. Background experience in diving and teaching
   6. Certification as a basic SCUBA diver for at least one year and a log of at least 24 hours of open water experience prior to admission to an instructor training program
   7. Ability to demonstrate ditch and recovery in good form
   8. Ability to tow another SCUBA diver 100 yards in less than five minutes
   9. Buddy breathing and gear exchange skills with a nonequipped diver -- two pool-lengths with each diver wearing the gear
   10. Descent/ascent skills -- including pressure equalization
   11. Mouthpiece clearing skills -- snorkel and regulator
   12. Underwater/surface vest and buoyancy control
   13. Underwater problem-solving abilities
   14. Full gear surface snorkel swimming skills
   15. Emergency ascent skills.

III. Knowledges and Understandings
   A. Skin diving instructors should comprehend the following:
      1. Requirements for safe diving
         a) Good physical and mental condition
         b) Good swimming ability
         c) Instruction in safe diving
         d) Dive planning
      2. Ways to improve skin diving ability
         a) Studying about diving
         b) Practicing skills in pool
         c) Gaining experience diving in open water
      3. Diving-related hazards
         a) Wounds
         b) Squeeze
         c) Drowning
      4. Conditions which prohibit diving
         a) Medical problems which affect ears, sinus, lungs, heart, and consciousness
         b) Psychological deterrents
         c) Temporary conditions such as illness
      5. Physical aspects
         a) Air pressure
         b) Water pressure

c) Temperature and heat loss
d) Buoyancy and related factors
e) Vision underwater
f) Composition of air

6. Medical aspects
   a) Respiration
   b) Circulation
   c) Air spaces
   d) Squeezes, respiratory accidents, overexertion, and exposure
      (1) Definition
      (2) Cause
      (3) Symptoms
      (4) Treatment
      (5) Prevention
   e) Harmful practices (drugs, tobacco, alcohol)
7. Basic oceanography
   a) Environmental condition
      (1) Water -- surface action, currents, tides
      (2) Topography
   b) Marine and aquatic life

B. SCUBA diving instructors should know the following:
1. The knowledges and understandings of the skin diving instructor
2. Teaching theory, methods, and techniques
3. Diving environments: physical and biological
4. Medical aspects of SCUBA diving
5. Decompression
6. Diving physics
7. Diving physiology
8. Diving physical fitness
9. First aid
10. Lifesaving
11. Measurement and evaluation
12. Training aids
13. Basic course operation and procedures
14. SCUBA diving equipment
15. Legal aspects
16. Emergency procedures and open water dive management
17. Small boat handling and safety
18. Communication -- surface and underwater
19. Elective options, including 31 instructional hours in a variety of topics selected from the following:
    a) Diving certification agencies
    b) Business of diving instruction
    c) State of the art
    d) Activities in related fields

e) Diving accident case studies
f) Instructional problems
g) Current problems in sport diving
h) Industrial and military diving
i) Advanced diving programs
j) Imaginative SCUBA instruction
k) Future of diving
l) Diving travel
m) Special interest in diving
n) Diving club organization
o) Diving psychology
p) Deep diving
q) Diving legislation
r) Diving at high altitude.

IV. Methodology
A. Instructors should be able to:
1. Teach all theoretical aspects of skin and SCUBA diving
2. Plan lessons and arrange teaching progressions effectively
3. Use appropriate evaluative tools and techniques.

V. Programs
A. Diving schools should include:
1. Basic instruction programs
2. Recreation programs
3. Research programs.
B. Agencies should provide for:
1. National instruction programs (NAUI, YMCA, PADI, etc.)
2. Special interest groups -- underwater photography, archeology, etc.
3. Commercial groups -- dive shops, manufacturers, etc.
4. Government agencies.

VI. Equipemnt and Facilities
A. The following must be taken into consideration:
1. Equipment requirements and functions
2. Storage and maintenance requirements
3. Compressed air standards and operation of compressed air equipment
4. Emergency repairs
5. Equipment selection, handling, and transportation
6. Selection and use of open water dive sites.

Topic: INSTRUCTOR OF SMALL CRAFT AND OPEN WATER ACTIVITY
Chairman: D. PATRICIA BROWN, Ball State University, Muncie, Indiana
Recorder: ROBERT F. BURNSIDE, American Red Cross, Washington, D.C.

I. Premises

A. Water-related activities are the second largest recreational activity today. The Outdoor Recreation Resources Review Commission states that water-related activities will be the number one recreational activity within 5 to 10 years. It is the opinion of this group that small craft is one of the vehicles through which much of this growth will take place.

B. According to the ARC Small Craft National Director, there are in the United States over 43 million participants, $8\frac{1}{2}$ million boats, and 3,000 marinas currently involved in small craft (i.e. any craft under 26 feet).

C. The relatively large number of fatalities resulting from lack of knowledge and skill in safe boating makes this a particularly important area for aquatic specialists.

D. Aquatic instructors need basic safety education common to all categories of small craft. This safety education necessitates the development of skill and knowledge competency.

E. The Federal Boat Safety Act of 1971 (Public Law 92-75) will create a great demand for education common to all categories of small craft.

F. Aquatic instructors pursuing a small craft emphasis in canoeing, boating, or sailing should be cognizant of safety related to other open water activities, such as water skiing, skin and SCUBA diving, fishing, and hunting.

G. Aquatic instructors should gain competency in a specific category of small craft such as canoeing, boating, or sailing.

H. Aquatic instructors pursuing a small craft emphasis may receive training through educational institutions and/or agencies whose programs meet their training needs.

II. Basic Skills

A. The small craft and open water activity instructor should be familiar with:

1. The use and handling of small craft under local conditions
2. First aid and safety practices, rescue, and use of equipment pertaining to small craft
3. Care and maintenance of small craft
4. Basic marlinspike seamanship.

III. Knowledges and Understandings

A. The instructor should be knowledgeable of the following:

1. Basic principles related to boating, canoeing, and sailing
2. Federal and state law affecting small craft operation and safety
3. Rules and regulations related to safe boating, etiquette, and rescue
4. Selection and maintenance of craft
5. Basic piloting and navigation aids
6. Design, operation, and maintenance of waterfront facilities
7. Weather and environmental conditions
8. Agencies providing resources and instruction in the small craft field
9. Regattas, competitive events, and demonstrations
10. Coaching theory and officiating techniques
11. Safety supervision
12. Insurance
13. Surfing techniques
14. Water skiing.

IV. Methodology

A. The instructor must:

1. Relate both theory and practice in basic education; neither theory nor practice is sufficient in itself
2. Apply the same methodology required of physical educators, but relate it to the small craft area, such as class organization on the water.

V. Programs

A. It is assumed that instructors are knowledgeable of general water safety principles before they begin training in the specialized area of small craft.

B. "How to teach" principles should be included in course content, with opportunities for supervised teaching experience.

C. Small craft instructors should have a basic course in each category of small craft -- canoeing, boating, and sailing. Extensive experience and/or training in a selected category is recommended so that the instructor is knowledgeable in all aspects of that category.

VI. Equipment and Facilities

A. The instructor should be familiar with the following:

1. Types of crafts
2. Accessory equipment for craft
   a) Lifesaving devices
   b) Life jackets, vests, etc.

c) Running lights
d) Line
e) Anchors
f) Fire extinguishers
h) Tool kits

3. Audiovisual equipment and aids
4. Storage areas and related equipment
5. Maintenance areas and equipment
6. Waterfront and equipment supervision
7. Ongoing maintenance programs
8. Licensing of craft
9. Proper training craft.

Topic: INSTRUCTOR OF COMPETITIVE SWIMMING
Chairman: ROBERT MOWERSON, University of Minnesota, Minneapolis
Recorder: CAROL COOPER, Southern Illinois University, Carbondale

I. Premises
   A. The competitive swimming instructor should be highly qualified in his area of specialty and be cognizant of the integral role competitive swimming plays in a well-rounded aquatic program.
   B. He should be provided with opportunities within his specialty for continual individual skill development as well as supervised teaching and coaching opportunities.
   C. He should be an active participant in his professional organizations and avail himself of continuous in-service training by attending clinics, workshops, and professional conferences.

II. Basic Skills
   A. Performance and teaching skills are necessary for successful coaching.
   B. WSI and ARC advanced first aid or equivalent training should be included.

III. Knowledges and Understandings
   A. The instructor must be familiar with the laws of physical and behavioral sciences in the following areas and their application to competitive swimming:
      1. Basic hydrodynamics and physics
      2. Mechanics, analysis, and error correction for competitive strokes, starts, and turns
      3. The application of physiological principles to training and conditioning programs
      4. Human growth and development characteristics
      5. Psychology of coaching, including philosophy and principles.

B. The instructor's administrative background should include familiarity with:
   1. Methods of conducting meets and workshops
   2. Eligibility standards, standing rules, and competitive rules of the various sanctioning organizations
   3. Facility design specific to competitive swimming
   4. Facility arrangement for competition
   5. Methods of budgeting and scheduling
   6. Sources of historical and reference materials.

IV. Methodology
   A. Knowledge of individual and group routines for land and water workouts are necessary to insure maximum utilization of available time and space.
   B. The instructor should observe coaches working in varied programs.
   C. Using videotapes and film analysis can help the instructor in many ways.

V. Programs
   A. The instructor should have an opportunity for supervised experiences and apprenticeships.

Topic: INSTRUCTOR OF SYNCHRONIZED SWIMMING
Chairman: THERESA ANDERSON, Des Moines, Iowa
Recorder: VIRGINIA GRINDLE, University of Pittsburgh, Pittsburgh, Pennsylvania

I. Premises
   A. All instructors should have a knowledge and appreciation of synchronized swimming.
   B. The primary objective of synchronized swimming and aquatic art should be to develop a high level of individual skill.

II. Basic Skills
   A. An instructor should have synchronized swimming skills in:
      1. Front crawl
      2. Back crawl
      3. Sidestroke
      4. Breaststroke
      5. Breath control
      6. Eggbeater
      7. Sculling
         a) On back-stationary

b) Head first-hands at hips
c) Head first-hands overhead
d) Feet first-hands overhead
e) Feet first-hands at hips
f) On stomach-hands at hips
g) Support sculling.

B. An instructor should be able to perform these basic body positions:
1. Layouts
2. Tucks
3. Pikes
4. Verticals
5. Arches.

C. The instructor should know the following component parts of stunts:
1. Bent knee
2. Ballet leg-single
3. Crane
4. Flamingo
5. Twists
6. Spins.

D. The instructor should be familiar with the following:
1. Beginning
a) Somersault
(1) Back tuck
(2) Front pike
(3) Back pike
b) Ballet leg submarine
c) Ballet leg
d) Dolphin
e) Front walkover
f) Foot first dolphin
g) Other stunts (include combinations of the above)
2. Intermediate
a) Somer-sub
b) Kip
c) Flamingo bent knee
d) Barracuda
e) Swordfish
f) Catalina
g) Ballet leg roll, single
3. Advanced
a) Dolpholina
b) Sub-crane
c) Gaviota
d) Subilarc
e) Albatross.

III. Knowledges and Understandings

A. An instructor of synchronized swimming should know:

1. History of synchronized swimming
2. Laws of physics -- theories of motor learning and kinesiology as applied to body movement in water
3. Officiating and judging
4. Development of routines
5. Techniques for conditioning and training individuals for synchronized swimming
   a) Exercises
   b) Developing endurance
   c) Strength and flexibility
   d) Interval swimming
6. Rules and governing bodies
   a) DGWS
   b) AAU
7. Coaching and teaching techniques
   a) Techniques of developing individual skill improvement
   b) Stunt and routine progressions
   c) Student involvement in other facets of the program
   d) Motivational techniques
   e) Psychology of a swimmer
   f) Techniques of choreography development and dance techniques
8. How to plan and administer a competitive meet
9. How to plan demonstrations, clinics, and water show productions
   a) Publicity
   b) Tickets
   c) Lighting
   d) Costumes
   e) Narration
   f) Scenery and props
   g) Safety
10. The hazards of electrical equipment
11. References applicable to synchronized swimming
   a) AAU Official Synchronized Swimming Handbook (update yearly)
   b) DGWS Aquatic Guide (update every other year)
   c) Academy of Aquatic Art.

IV. Methodology

A. An instructor should know how to:

1. Plan organization of workouts including dry land practices
2. Plan effective progressions in basic, intermediate, and advanced techniques

3. Apply synchronized swimming skills in construction of routines
4. Use audiovisual aids for analysis of stunts or stroke performance.

V. Programs
   A. An instructor should be aware of the following types of programs:
      1. Schools, Colleges, Universities
         a) Instructional
         b) Recreational
         c) Intramural
         d) Competitive
      2. Agencies
         a) YMCA - YWCA
         b) Parks and recreation departments
         c) AAU
         d) FINA
         e) Community clubs
         f) Country clubs
         g) Camps
         h) Academy of Aquatic Art.

VI. Equipment and Facilities
   A. Sound must be regulated for:
      1. Air
      2. Underwater.
   B. Ideal pool conditions for synchronized swimming include:
      1. Encouraging the planning of sufficient deep water areas for new facilities
      2. Adequate underwater and overhead lighting, as well as proper electrical outlets for spotlights, etc.
      3. Large underwater windows
      4. Minimum of 8 to 10 feet for deck space directly surrounding pool area.

Topic: INSTRUCTOR OF WATER POLO
Chairman: DICK MILLER, Poly High School, Long Beach, California
Recorder: ERIC HANAUER, California State College, Fullerton

I. Premises
   A. Every aquatic instructor should have an appreciation of water polo.
   B. The objectives of water polo should be to develop a high level of skill and to understand the strategy, officiating, values, uses, and possible adaptations of the game.

II. Basic Skills

A. An instructor of water polo should possess the following skills:

1. Swimming
   a) Eggbeater kick
   b) Front crawl--head up
   c) Back crawl--adaptation
   d) Quick starting, stopping, changing directions
   e) Ability to maintain a horizontal body position
2. Individual offensive
   a) Picking up the ball from on top, from the bottom, while in place, and while moving
   b) Changing directions
   c) Receiving the ball (both wet and dry)
   d) Propelling the ball in water (dribbling)
   e) Use of both hands
   f) Passing-wet and dry passes
   g) Shooting--overhand, push, pop, backhand, lob, rearback, sweep, tip
   h) Hole shots
   i) Penalty shots
3. Individual defense
   a) Man-to-man defense and positioning
   b) Switching
   c) Tackling and ball-stealing (lunge block)
   d) Passing lanes
   e) Communication
   f) Defense without fouling
4. Goaltending
   a) Eggbeater kick
   b) Blocking shots
   c) Positioning in the goal
   d) Offensive and defensive quarterbacking
   e) Defense against penalty shots.

III. Knowledges and Understandings

A. An instructor should know:

1. History of water polo
2. National rules of the game as set by the National Collegiate Athletic Association (NCAA), as well as an understanding of the AAU and FINA rules
3. Techniques for conditioning and training indivuduals for water polo
   a) Exercise programs
   b) In-water conditioning
   c) Skill development
4. How to organize a workout
5. Team offense
   a) Set offense (sitting game)

b) Swimming offense
c) Counterattack
d) Free man situation
e) Extra player offense (AAU)

6. Team defense
   a) Man-to-man
   b) Full court press
   c) Drop back
      (1) Man-to-man
      (2) Zone
   d) Short man defense (AAU)
   e) Passing land defense
   f) Weakside, strongside
   g) Sluffing
7. Psychological aspects of coaching water polo
8. How to plan and administer a competitive water polo season
   a) Tournament organization
   b) Scheduling
9. Officiating
   a) Rules
   b) Mechanics
   c) Local officials' associations.

IV. Methodology
   A. An instructor should know how to:
      1. Plan for logical skill development
      2. Use drills for skill development
      3. Apply skills in a competitive situation
      4. Achieve professional growth
         a) Attend and organize clinics
         b) Read professional literature
            (1) Lambert and Gaughran's The Technique of Water Polo
            (2) NCAA and AAU Water Polo Guides and Casebooks
            (3) Water Polo Scoreboard Magazine
            (4) Swimming World Magazine
         c) Observe water polo games at all levels
         d) Secure membership in national and local aquatic coaching organizations.

V. Programs
   A. An instructor should be familiar with the following programs:
      1. Schools
         a) Instructional
         b) Recreational
         c) Intramural
         d) Competition

2. Agencies
   a) YMCA
   b) Park and recreational departments
   c) Amateur Athletic Union
      (1) Age group water polo
      (2) Girls' water polo.

VI. Equipment and Facilities
   A. An instructor should know how to:
      1. Select goals to fit the facility
      2. Schedule pool time
      3. Encourage the planning of proper water polo facilities
         a) Pool dimensions
         b) Deep water
         c) Proper pool markings
         d) Spectator areas
      4. Protect windows and lights
      5. Order and purchase suitable equipment
         a) Official balls
         b) Caps and ear guards
         c) Officials' flags
         d) Timing and scoring equipment
      6. Publicize and promote the sport.

Topic: INSTRUCTOR OF LIFEGUARDING
Chairman: THOMAS F. KRIZAN, University of Illinois, Champaign
Recorder: DAVE WURZER, University of Utah, Salt Lake City

I. Premises
   A. Recent surveys have shown that one of the greatest employment needs in the field of aquatics is for trained lifeguards. To meet this need, a training program for lifeguard instructors should precede a basic lifeguard training course.
   B. Lifesaving is a term used in teaching people the skills and knowledge they need to save themselves and others. By contrast, lifeguarding is a highly skilled profession dealing primarily with the prevention of accidents and the rescue and recovery of accident victims.

II. Basic Skills
   A. The following are prerequisites to becoming a lifeguard instructor:
      1. Required
         a) Minimum age of 18 years

b) Strong swimmer-able to demonstrate proficiency in swimming and lifesaving skills
c) Current Water Safety Instructor certificate
d) Current Senior Lifesaving certificate or lifesaving instructional activity within the past two years
e) Current Advanced First Aid certificate
f) Skin diving certificate (mask, fins, and snorkel) or demonstrable skills
g) Skills in small craft rescue techniques

2. Recommended
a) Current Basic Lifeguard Training certificate
b) First Aid Instructor certificate
c) Basic SCUBA certificate
d) Boating Safety certificate from Power Squadrons, Coast Guard Auxiliary, etc.

B. The instructor must have proficiency in executing and teaching the following:
1. Standard lifesaving and lifeguarding skills
2. First aid and rescue techniques and skills
a) Care and operation of resuscitation equipment
b) Care of neck, back, and head injuries concurrent with the recommendation of the American Medical Association
c) Cardiopulmonary resuscitation concurrent with the recommendation of the American Heart Association
3. Use of communications equipment -- radio, telephone, public address system, and special rigs
4. Search and recovery skills and use of special equipment
5. Skills relevant to the facilities and geographic area (i.e., pools, still and moving water).

III. Knowledges and Understandings
A. An instructor should comprehend the following:
1. Basic knowledge of all items listed under Section II above
2. Basic principles of lifeguarding (e.g., regulations, administration procedures, emergency procedures)
3. Adaptation of lifeguarding skills and techniques to specific situations, including pools and still moving water
4. Health and safety regulations and practices, including:
a) State health regulations
b) Accident prevention
c) Jurisprudence as it affects the lifeguard

5. Physics laws applicable to the skills recommended in Section II above
6. Physiology of respiration, drowning, and hyperventilation
7. Weather and water conditions
8. Skills required for pool maintenance and facility operation.

IV. Methodology
- A. Lifeguard instructors must be aware of these aspects of methodology:
  1. Screening of lifeguard candidates
  2. Basic instruction and progression methods
  3. In-service training
  4. Field experience in lifeguarding
  5. Use of audiovisual aids.

V. Programs
- A. Consideration should be given to lifeguarding relative to:
  1. Instruction
  2. Recreation
  3. Competition.

VI. Equipment and Facilities
- A. Instructors should be able to:
  1. Recognize danger areas
  2. Integrate construction plans for lifeguard stands and other equipment
  3. Purchase needed lifeguard uniforms and equipment
  4. Develop specific forms (i.e., for accidents, rescue, attendance, pay, etc.).

Topic: INSTRUCTOR OF AQUATIC FACILITIES MANAGEMENT
Chairman: DAVID THOMAS, State University of New York, Binghamton
Recorder: JOHN O. LEWELLEN, Ball State University, Muncie, Indiana

I. Premises
- A. All aquatic programs are dependent upon the availability and condition of facilities, especially swimming pools.
- B. The need for instructors in the area of facilities operation is indicated by the deep concern of the United States Public Health Service (USPHS) over the present condition of vast numbers of public and institutional pools.
- C. Advances in technology require a similar advance in the training level of those who specialize in the management of aquatic facilities.

II. Basic Skills
   A. An essential skill is the ability to operate equipment used in aquatic facilities.
   B. Limited skill is necessary in plumbing, electrical, and mechanical areas.
   C. Imagination and analytical skills are necessary in examining architect's plans and developing new facilities.

III. Knowledges and Understandings
   A. Instructors should be knowledgeable about:
      1. General concepts of swimming pool circulation and filtration
      2. Operation of all types of sand filters and diatomaceous earth filters
      3. Water chemistry, particularly acid-base chemistry and chemistry of alkalinity and hardness
      4. Chemistry of chlorination of water
      5. Chemistry of bromine, iodine, and other bactericides as they relate to pool sanitation
      6. Tests and measurements in pool chemistry
         a) Residual bactericide
         b) pH of water
         c) Minerals and metal ions in water
      7. Use of flocculents, algaecides, and other pool chemicals
      8. Sanitation of decks, floors, and bathhouse areas
      9. Operational and maintenance principles of pool equipment
         a) Circulation pumps
         b) Electrical pump motors
         c) Pool bottom cleaners
         d) Valves
         e) Chemical feeders
         f) Water heaters
         g) Flow meters
         h) Underwater lights and sound systems
         i) SCUBA compressors
      10. Seasonal pool care
      11. Mathematics involved in calculations of:
         a) Filter size
         b) Flow rates
         c) Pool water capacities
         d) Pump curves
         e) Maximum swimmer load
      12. Keeping pool records and pool operation data
      13. Basic principles of operation and maintenance of equipment required for specialized areas such as handicapped, small craft, SCUBA diving, competi-

tive swimming, synchronized swimming, water polo, and springboard diving.

IV. Methodology
- A. Instructors should participate in programs of certification or licensing by such recognized agencies as the USPHS.
- B. Experience and on-the-job training in pool operation is desirable.
- C. Instructors should take theory and activities courses in specialty areas to obtain an appreciation of the equipment used in each area.

V. Programs
- A. The instructor should consider the development of new programs, and make use of existing programs leading to licensing and/or certification of aquatic facilities operators.
- B. Such programs are being developed by the National Swimming Pool Institute, the National Sanitation Foundation, and the USPHS.

Professional Standards for the Aquatic Specialist

I. An aquatic specialist is an individual satisfying the following qualifications:
   1. Possesses a basic appreciation of each of the 10 areas enumerated for aquatic instructors (pages 7-32).
   2. Meets the standards established for at least three of the aquatic instructor areas.

Professional Standards for the Aquatic Administrator

Chairman: WILLIAM CAMPBELL, University of Maryland, College Park
Recorder: ROBERT LEAHY, Youngstown State University, Youngstown, Ohio

I. Premises
   A. To develop an awareness of comprehensive aquatic programs and facilities and how to coordinate their many facets (this concentration is most likely to be undertaken at the graduate level).
   B. To develop an awareness and understanding of:
      1. Role of aquatics in education and society
      2. Rules and practices of the various governing bodies
      3. Administrative problems related to equipment and supplies
      4. Problems related to indoor and outdoor facilities
      5. Sound business procedures
      6. School law and liability
      7. Factors involved in aquatic programs (instruction, recreation, competition)
      8. Staff relationships
      9. Good public relations techniques

10. Health aspects of aquatics
11. Psychological and sociological aspects of sports
12. Need for the interpretation of research in aquatics.

II. Basic Skills
- A. Certification as water safety instructor, YMCA leader-examiner, or equivalent
- B. Qualified as an aquatic specialist
- C. Individual skill experience in five of the following areas:
  1. Instruction
  2. Handicapped
  3. Small craft
  4. Competition
  5. Lifeguarding
  6. Skin and SCUBA diving
  7. Synchronized swimming
  8. Springboard and platform diving
  9. Water polo
  10. Aquatic facilities management
- D. Administrative skills
  1. Human relationships
  2. Budgeting
  3. Programming
  4. Scheduling
  5. Computer science
  6. Recruiting facilities
  7. Public relations
  8. Supervising and delegating responsibility
  9. Reading and interpreting blueprints
  10. Knowing about equipment purchase, operation, maintenance, repair, land safety

III. Knowledges and Understandings
- A. Historical aspects of aquatics
- B. Cultural aspects of aquatics
- C. Philosophical aspects of aquatics
- D. Ethical aspects of aquatics
- E. Professional and related organizations in aquatics
- F. Accounting practices
  1. Budget and finance
  2. Purchasing policies in running the facilities
  3. Operational policies
  4. Fund-raising policies
  5. Purchasing (specific equipment)
  6. Design, maintenance, and inventory of equipment and supplies
  7. Planning, construction, maintenance, and multiple use of facilities

8. Personal and institutional liability
9. Transportation
10. Insurance

G. Content of the 10 aquatic instructor areas
H. Communication media
I. Individual and group relationships
1. Professional status
2. Staff morale
3. Selection
4. Promotion
5. Salary
6. Tenure
7. Supervision
8. Policies
9. Staff communications
10. In-service training
11. Medical supervision
12. First aid (safety and relationship to health service)
13. Nutrition
14. Studies in aquatics (techniques and teaching methods)
15. Studies in administration

IV. Methodology
A. Building a professional reference file on administration
1. Sectional tabs to be inserted to provide file compartments
2. Materials to be added during the entire time of professional preparation

B. Assembling a progressive bibliography of reference material sources, including books, articles, theses, and pamphlets
C. Successfully completing general and specialized administration course(s) and seminars
D. Observing a beach, pool, or both, and noting the following administrative aspects:
1. Condition of equipment and facilities -- cleanliness, orderliness, sanitation, trouble-free
2. Safety measures -- lifeguards, inspection of equipment and facilities, enforcement of rules, beach layouts
3. Health measures -- tests of water and air, limited loads, sterilization
4. Security controls -- protection devices such as alarms, instructions to personnel, supervision of patrons

E. Interning at a beach or pool (highly recommended) Involvement in the following areas:
1. Program -- policies and desires of supervising board or chairman, interests and needs of persons

to be served, budgets, facilities and equipment, personnel available and required, balance and diversity of facets

2. Personnel -- competence required, method of hiring, salaries, periodic evaluation of performance
3. Organization -- chain of command, duties and responsibilities in each position
4. Public relations -- information dissemination, involvement of community, courteous treatment of patrons
5. Type of administration -- autocratic or democratic, responsibilities delegated, suggestions noted and grievances heard, attitude of employees, duty assignment, clear information on what is to be done and how, praise for good work
6. Liability -- steps to guard against negligence, bases for change of negligence, employee responsibilities

F. Specific expectations during an internship program
   1. Making up a hypothetical schedule to include instruction, recreation, competition, and special events (clinics, shows)
   2. Making up a hypothetical budget, including both estimated income and projected expenditures
   3. Making up sample reports-attendance, work performed, water and air tests
   4. Solving a hypothetical problem-power failure, unauthorized persons, refusal to obey rules, accident to patron.
   5. Filing summaries of experiences in notebook.

G. Attending professional meetings (i.e., institutes, CNCA, clinics, high school or college coaches meetings)

H. Evaluating the potential administrator based upon the quality of the notebook, the ratings earned in course work, the excellence of reports on observations, the quality of the bibliography on administration, and the judgments of persons overseeing the internship

V. Programs

A. Emphasis in the following areas for a graduate aquatic administrator program:
   1. Instruction
   2. Intramural
   3. Recreation
   4. Competition

B. Basic topics for instruction of aquatic administration
   1. Legal aspects
   2. Design and construction of aquatic complexes

3. Evaluation and control systems
4. Promotional office, financial management, and budgeting
5. Personnel
6. Public relations
7. Operation and maintenance of aquatic facilities
8. Supervisory control
9. Programming and scheduling
10. Evaluation of major aquatic programs-YMCA, ARC, NCAA, AAU, CNCA, CISM
11. Internship and practical experience
12. Audiovisual aids and computing programming
13. Organization and administration of aquatics and leadership training
14. Aquatics for the exceptional and handicapped

Approaches and Criteria for Certification of the Aquatic Educator

Certification Survey of Aquatic Instructors

Topic: INSTRUCTOR OF SWIMMING

Chairman: JAN HAGAN, San Leandro Schools, California
Speaker: MARLENE ADRIAN, Washington State University, Pullman
Recorder: LILLIAN PEARCE, Jersey City State College, Jersey City, New Jersey

I. General Statement on the Desirability or Need for Certification
   A. There was unanimous agreement that the need for certification be recognized.
   B. Existing certification should be recognized and used until Aquatics Council certification can be accomplished.

II. Proposed Personal Qualifications Required for Certification
   A. Instructors should possess a current swimming instructor certification from an agency which trains instructors.
   B. Instructors should participate in an internship program where teaching is done.
   C. Instructors should know the following:
      1. Principles of human growth and development
      2. Scientific principles of anatomy, physiology, and kinesiology

3. Theories of motor learning
4. Current research pertaining to learning of swimming
5. Multimedia teaching techniques
6. Various methods and approaches of teaching, including part-whole, whole-part, movement exploration, kinesthetic-tactile, mental-physical practice, problem solving, and self-teaching
7. How to utilize instructional aids such as films and videotapes
8. Measurement and evaluation techniques
9. Existing aquatic programs
10. Equipment needs and management.

III. Proposed Method for Assessing Certification Qualification
- A. Existing certification should be recognized.
- B. Local institutions will evaluate the instructor of swimming on the internship and on his knowledge of the criteria mentioned above.

IV. Levels of Professional Growth to Levels of Certification
- A. The programs should be developed from the basic present agency levels of certification.
- B. The programs should be upgraded to include the items in the body of knowledge, Section III of the report on Professional Standards for the Aquatic Instructor (page 8).
- C. Eventual specific skills, knowledge, and teaching ability standards should be set up by the Aquatics Council and certification granted.

V. Proposed System for Administering a Certification Program
- A. Certification cannot be undertaken at this time.
- B. Eventual certification by the Aquatics Council is to be encouraged.
- C. Institutions should certify when recommended to do so by the Aquatics Council.

Topic: INSTRUCTOR OF SPRINGBOARD DIVING
Chairman: ANNE ROSS FAIRBANKS, Skidmore College, Saratoga Springs, New York
Recorder: KAREN WEISS, Canoga Park High School, Canoga Park, California

I. General Statement on the Desirability or Need for Certification
- A. There is need for better qualified diving teachers at every level.

B. There is need for diving specialists to coach in the competitive diving field.

II. Proposed Personal Qualifications Required for Certification
   A. Minimum age should be 18.
   B. Instructors should meet requirements as stated in the report on Professional Standards in Springboard Diving (page 9).

III. Proposed Method for Assessing Certification Qualification
   A. Skill requirements should be met as stated in the report on Professional Standards in Springboard Diving.
   B. A written test should be given evaluating the following (as proposed in the report on Professional Standards in Springboard Diving):
      1. Knowledge and content
      2. Methodology
      3. Programs
      4. Care and management of equipment and facilities.
   C. Technique of judging springboard diving should be based on:
      1. Practical experience in judging meets, clinics, or films
      2. Judging test: Comparison with qualified judges by film or videotape of at least three divers performing two dives from each group and demonstrating all diving positions.

V. Proposed System for Administering a Certification Program
   A. There should be a course, 2 hours a week, 30 hours minimum.
   B. There should be a summer workshop or course, 45 hours minimum.
   C. There should be a diving institute, 45 hours minimum.

Topic: INSTRUCTOR OF THE HANDICAPPED
Chairman: MARY GRACE COLBY, University of Santa Clara, Santa Clara, California
Recorder: JOAN MORAN, University of Utah, Salt Lake City

I. General Statement on the Desirability or Need for Certification
   A. Since the ARC and YMCA are the only agencies that currently offer certification programs, they should be used as the basis for training.
      1. The ARC conducts a 15-hour course.
      2. The YMCA offers a 24-hour course.
   B. Inadequacies are evident in meeting present needs, especially in the areas of retraining and upgrading of materials. Thus, an evaluation of existing programs is needed.

1. A CNCA conference should plan for a joint AAHPER, ARC, YMCA session to evaluate and implement existing programs.
2. Certification qualifications in each program should be evaluated.

II. Methods for Implementation of Certification
- A. Universities should be encouraged to utilize specialists as consultants in the development of certification programs.
- B. Guidelines should be developed for college courses. Any Aquatics Council standards can be used as a reference.
- C. More regional state workshops conducted by aquatic specialists should be offered.
  1. Assistance to the staffs of professional and voluntary agencies is needed. Many of these people are not highly trained but are nonetheless responsible for coordinating and directing programs.
     a) There should be resource persons in each state. The Aquatics Council should investigate ways to utilize the specialists available from grant programs.
     b) Resource materials such as books and films should be available.
- D. Periodicals such as Update, JOHPER, and Challenge should be used regularly to disseminate information on aquatics for the handicapped.
- E. Each state health, physical education, and recreation association should appoint an aquatic chairman under the General Division and/or a representative to the state association executive committee for special education. Workshops and clinics should be promoted at the state and district levels.

Topic: SKIN AND SCUBA DIVING
Chairman: PETER CARROLL, Southern Illinois University, Carbondale
Speaker: JOHN OAKES, Parkdale, Oregon
Recorder: LEE H. SOMERS, University of Michigan, Ann Arbor

I. General Statement on the Desirability or Need for Certification
- A. Skin and SCUBA diving is a broad and highly specialized activity which requires in-depth preparation in a variety of knowledge and skill areas.
- B. The instructor in SCUBA must be capable of teaching all of the theory and practical aspects of recreational skin and SCUBA diving.

C. The skin and SCUBA diving instructor shall be qualified and certified.

D. Certification shall be under the auspices of any nationally recognized agency whose training standards meet or exceed those identified in the report on Professional Standards in Skin and SCUBA Diving (page 13).

II. Proposed Personal Qualifications Required for Certification

A. All skin diving instructors shall possess the skill and knowledge as indicated for the skin diving instructor in the report on Professional Standards in Skin and SCUBA Diving.

B. All SCUBA diving instructors shall be qualified in the following manner:

1. Possess the skills of the skin diving instructor
2. Meet all basic SCUBA course skills as outlined in Section II.B. of the skin and SCUBA diving report (page 15).
3. Be a minimum of 21 years of age
4. Successfully complete formal training in first aid and lifesaving
5. Have experience in teaching and diving
6. Be certified as a basic SCUBA diver for at least one year and have at least 24 hours of open water experience prior to admission to an instructor training program
7. Successfully complete a skin and SCUBA diving instructor certification course as indicated in Section I of this report.

III. Proposed Method for Assessing Certification Qualification

A. AAHPER has the responsibility to establish standards.

B. AAHPER is not constituted to conduct certification procedures for skin and SCUBA diving instructors, nor is it desirable for it to do so.

IV. Levels of Professional Growth to Levels of Certification

A. The logical order of progression to certification as a skin and/or SCUBA diving instructor is as follows:

1. Basic skin and/or SCUBA diving certification
2. Successful completion of formal training in lifesaving and first aid
3. Experience in diving and teaching diving, including at least one year as a basic diver and at least 24 hours of open water experience.
4. Successful completion of a skin and/or SCUBA diving instructor training course.

V. Proposed System for Administering a Certification Program
   A. AAHPER should look to the nationally recognized agencies that meet the certification standards as stated in the report on Professional Standards for Skin and SCUBA diving Instructors (page 13).
   B. These agencies must also comply with the following criteria:
      1. Provide an adequate in-service training program
      2. Have adequate procedures whereby agencies may continually evaluate their instructors and take appropriate actions when standards are not being upheld
      3. Have adequate instructor renewal procedures
      4. Offer acceptable basic minimum skin and SCUBA diving course standards as outlined in the report on page 13.

VI. Recommendation: That the Aquatics Council appoint an advisory committee to provide guidance for the implementation of these recommendations and the leadership to review annually the standards established at this conference.

Topic: INSTRUCTOR OF SMALL CRAFT AND OPEN WATER ACTIVITY
Chairman: DON ROBINSON, Mankato State College, Mankato, Minnesota
Speaker: ROBERT DIONNE, Chico State College, Chico, California
Recorder: BEATRICE FYLE, Miami University, Oxford, Ohio

I. General Statement on the Desirability or Need for Certification
   A. There is a definite need for certification for all operators and instructors of small craft, but they should be certified through existing agencies.
   B. There is a definite need for accreditation of universities and agencies whose standards are consistent with those established by the small crafts standards committee of the Aquatics Council.

II. Proposed Personal Qualifications Required for Certification
   A. Small craft instructors should be at least 18 years of age.
   B. They should have a basic foundation course plus experience in the use of small craft.
   C. They should possess skills and knowledge commensurate with their geographic area.

III. Proposed Method for Assessing Certification Qualification
   A. Certification qualifications can be assessed by:

1. Skills tests
2. Knowledge tests
3. Teaching experience evaluation.

IV. Levels of Professional Growth to Levels of Certification
A. There are three levels of professional growth development:
1. Community and other agency programs
2. Educational service programs in secondary schools and universities
3. Professional programs such as physical education programs.

V. Proposed System for Administering a Certification Program
A. It is recommended that a small craft committee be appointed by the Executive Committee of the Aquatic Council.
B. This committee should develop a standards checklist of curricula, personnel, and existing facilities and equipment for determining AAHPER accreditation.

Topic: INSTRUCTOR OF COMPETITIVE SWIMMING
Chairman: CAROL COOPER, Southern Illinois University, Carbondale
Speaker: DAVID ROBERTSON, New Trier East High School, Winnetka, Illinois
Recorder: PEGGY KELSO, Rosary College, River Forest, Illinois

I. General Statement on the Desirability or Need for Certification
A. It would be desirable to have a professional certification of swimming coaches.
B. It is important to have knowledgeable individuals working with competitive swimmers.
C. The better informed the coaches are, the more they can contribute to the profession and the better trained the swimmers will be.

II. Proposed Personal Qualifications Required for Certification
A. Swimming coaches should be at least 21 years old.
B. Experiences that would be valuable include:
1. Membership on an organized swim team
2. Attendance at clinics and aquatic schools
3. Serving as a swim manager for a team
4. In-service training with a well-qualified coach
5. Coaching experience in another sport.
C. Formal training that would be desirable includes:
1. Basic courses in physiology, psychology, sociology, coaching methods, kinesiology, and athletics administration

2. First aid, safety education, treating athletic injuries
3. Student teaching experience
4. A coaching minor or a physical education major with a specialty in coaching.

D. Swimming coaches should have the following skills:
1. Ability to communicate well
2. Mature judgment and insight
3. Lifesaving
4. Current first aid skills as applied to swimming
5. Ability to teach swimmers how to perform strokes, starts, turns, and other techniques.

E. Coaches should have knowledge of the following:
1. Basic hydrodynamics and physics
2. Mechanics, analysis, and error correction of competitive strokes, starts, and turns
3. Application of physiological principles to training and conditioning programs
4. Human growth and development characteristics
5. Psychology of coaching, including philosophy and principles
6. Methods of conducting meets and workshops
7. Eligibility standards, standing rules, and competitive rules of sanctioning bodies
8. Facility arrangement for competition
9. Facility design specific to competitive swimming
10. Budgeting and scheduling methods
11. Sources of historical and reference materials
12. Use of multimedia materials.

III. Proposed Method for Assessing Certification Qualification
A. The college and university programs can establish certification.
B. Applicants demonstrate qualifications by showing that they have taken the courses recommended in Section II.C. of this report.
C. Applicants should serve an apprenticeship in coaching of swimming.

IV. Levels of Professional Growth to Levels of Certification
A. It is recommended that there be one certification level.
B. This certification should meet the requirements that have been indicated.

V. Proposed System for Administering a Certification Program
A. The evaluation committee should determine if the curriculums meet the basic requirements for coaching.

B. One of the following should serve as a certifying organization:
   1. AAHPER District Swim Committee
   2. State AHPER Swim Committee
   3. State or area coaching associations.

C. It is recommended that AAHPER sponsor one-week clinics on an annual basis for training coaches, reviewing certification, or acquainting coaches with new methods and materials in the field of coaching.

Topic: INSTRUCTOR OF SYNCHRONIZED SWIMMING
Chairman: BEE HALLETT, Central Michigan University, Mt. Pleasant
Speaker: THERESA ANDERSON, Des Moines, Iowa
Recorder: JEAN LUNDHOLM, University of Illinois, Urbana

I. General Statement on the Desirability or Need for Certification
   A. Certification is needed for instructors of synchronized swimming for the following reasons:
      1. Increased interest and participation in the activity
      2. Increased community need
      3. Promotion of skill level and standardization of course content
      4. Prestige.

II. Proposed Personal Qualifications Required for Certification
   A. Instructors of synchronized swimming should be a minimum of 18 years.
   B. They should have experiences in a variety of the following:
      1. Show production
         a) Performer
         b) Choreographer
         c) Technical producer
         d) Director
         e) Staging
         f) Costuming.
   C. They should have practical experience in teaching or coaching.
   D. They should possess a WSI certificate or equivalent.

III. Proposed Method for Assessing Certification Qualification
   A. Candidates can be evaluated in the following ways:
      1. Required classes
         a) Skill
         b) Coaching and teaching methods

2. Written examinations
3. Ability to analyze synchronized swimming skills
4. Judges' ratings.

IV. Levels of Professional Growth to Levels of Certification
A. It is desirable that the instructor of synchronized swimming:
1. Attend clinics, meets, shows, and workshops
2. Organize, assist, or conduct workshops, water shows, and meets
3. Officiate and judge meets
4. Keep up with current innovations, organizations, and references
5. Promote research in synchronized swimming.

V. Proposed System for Administering a Certification Program
A. It is recommended that a certificate be issued at the time of completion of the program.
B. Certification will be the responsibility of the instructor of the program.
C. It is recommended that a synchronized swimming liaison be appointed to the research council of AAHPER.

Topic: INSTRUCTOR OF WATER POLO
Chairman: RICHARD L. MILLER, Poly High School, Long Beach, California
Speaker: ERIC HANAUER, California State College, Fullerton
Recorder: RICHARD L. MILLER

I. General Statement on the Desirability or Need for Certification
A. A national system of certification could provide the impetus to spread water polo to areas which do not have water polo programs.
B. The level of knowledge and understanding of water polo should be raised nationwide.

II. Proposed Personal Qualifications Required for Certification
A. A minimum age of 17 years is required.
B. Three years of playing experience or one year of probationary coaching experience is necessary. If a water polo instructor has had five years of coaching experience as of the date the certification program goes into effect, he will be granted automatic certification.
C. No formal training is necessary.
D. No specific skills are required.
E. An instructor should be knowledgeable about:
1. Rules

2. Individual and team offensive and defensive techniques
3. Coaching techniques
4. Officiating.

F. Membership in the following professional organizations is desirable:
1. National Interscholastic Swimming Coaches Association (NISCA)
2. American Swimming Coaches Association (ASCA)
3. College Swimming Coaches Association (CSCA)
4. Local coaches' and officials' associations.

III. Proposed Method for Assessing Certification Qualification
A. Candidates can be evaluated in the following ways:
1. Written résumé of background and experience
2. Written test
a) Rules
b) Individual and team offensive and defensive techniques
3. Practical test in officiating a scrimmage
4. Proof of membership in a professional organization.

IV. Levels of Professional Growth to Levels of Certification
A. There has never been a water polo certification in the country.
B. Certification is impractical at this time.

V. Proposed System for Administering a Certification Program
A. There should be unified certification by the following professional organizations for their membership:
1. AAHPER
2. NISCA
3. CSCA
4. ASCA.

Topic: INSTRUCTOR OF LIFEGUARDING
Chairman: NORMAN BOTTENBERG, American Red Cross, Seattle, Washington
Recorder: BILLIE POSTON, Fresno State College, Fresno, California

I. General statement on the Desirability or Need for Certification
A. Certification of the successful completion of a course in the principles and practices of lifeguarding techniques is desirable.
B. Certification of an instructor to teach a course in the principles, practices, and procedures of lifeguarding at the university level is desirable.

II. Proposed Personal Qualifications Required for Certification

A. An instructor must have the following prerequisites:

1. A current WSI certificate with recent senior lifesaving instructional activity
2. Proficiency in swimming and lifesaving skills
3. A current advanced first aid certificate or equivalent instructor certificate
4. Skin diving certificate or possession of equivalent skills.
5. Skills in the use of small craft in rescue techniques
6. Minimum of 21 years of age
7. Minimum of two seasons of lifeguarding experience.

B. An instructor should possess proficiency in executing and teaching the following:

1. Standard lifesaving skills
2. Special skills relevant to the facilities and geographical area involved and to pools and still and moving water
3. Rescue techniques and skills.
   a) Care and operation of resuscitation equipment
   b) Care for neck, back, and head injuries concurrent with the recommendation of the American Medical Association
   c) Search and recovery skills and equipment
   d) Cardiopulmonary resuscitation.

   (This list is not intended to be all-inclusive and is open for curriculum study.)

C. An instructor should have a basic understanding of:

1. All items listed in section on Individual Skills Development (p. 28).
2. Principles of lifeguarding
   a) Rules and regulations
   b) Administration procedures
3. Adaptation of lifeguarding skills and techniques to specific situations including pools and still and moving water
4. Health and safety laws and practices
   a) State health regulations
   b) Accident prevention
   c) Jurisprudence as it affects lifeguard instructors
5. The laws of physics applicable to the skills included in section on Skill and Development (p.
6. Physiology of respiration, drowning, and hyperventilation.

III. Proposed Method for Assessing Certification Qualification

A. A candidate can be evaluated by means of:

1. Skills test
   a) Proficiency in all skills as listed in Section II.B. above
   b) Competence in all standard lifesaving skills, as taught by various national agencies such as the ARC or YMCA
2. Comprehensive written test
   a) Skills
   b) Content
   c) Methodology
   d) Programs
   e) Facilities and equipment
3. Experience
   a) Practical experience or internship as co-teacher in a course on lifeguard instruction as required for certification
   b) Knowledge of local resources to broaden knowledge of lifeguarding.

IV. Levels of Professional Growth to Levels of Certification

A. The following are levels of professional growth development:

1. Lifesaving certification
2. First aid certification
3. Skin diving and small craft experience
4. Course certificate in the principles and practices of lifeguarding
5. Two seasons of experience as a lifeguard or equivalent
6. WSI certificate or equivalent
7. Teaching experience in a lifesaving course as a WSI
8. Instructor of lifeguarding course
   a) Apprenticeship
   b) Seminars to maintain current knowledge and competency.

V. Proposed System for Administering a Certification Program

A. AAHPER is the body which certifies the instructor of lifeguarding.

B. The institution or agency which offers the course taught by a certified instructor then issues a course completion certificate.

Topic: INSTRUCTOR OF FACILITIES MANAGEMENT
Chairman: JOHN O. LEWELLEN, Ball State University, Muncie, Indiana
Speaker: DAVID G. THOMAS, State University of New York, Binghamton
Recorder: JAMES R. McDANIEL, La Mesa, California

I. General Statement on the Desirability or Need for Certification
   A. It is recommended that the aquatics facility operator be certified in those areas involving maintenance of the quality of water in order to eliminate health hazards for participating individuals.
   B. This recommendation applies to natural and man-made bodies of water utilized for aquatics activities and relates only to activities which expose the human body to direct contact with the water.

II. Proposed Personal Qualifications Required for Certification
   A. The USPHS is concerned and rapidly moving toward the adoption of certification standards for those individuals responsible for water quality in all areas of public use.
   B. It is recommended that this conference delay action towards developing certification criteria until the certification requirements of the USPHS have been established.

III. Proposed Method for Assessing Certification Qualification
   A. The USPHS will arrange channels for assessing certification qualifications.
   B. The Aquatics Council will then consider the method for assessing these qualifications.

IV. Levels of Professional Growth to Levels of Certification
   A. It is not expected that the USPHS will have more than one level of certification.
   B. In any case, the USPHS will establish levels of certification.

V. Proposed System for Administering a Certification Program
   A. The program will be administered by the USPHS through state or local health departments.

Topic: AQUATIC ADMINISTRATOR
Chairman: BOB MOWERSON, University of Minnesota, Minneapolis
Speaker: FRED A. STETSON, University of Montana, Missoula
Recorder: BOB MOWERSON

I. General Statement on the Desirability or Need for Certification
   A. An aquatic administrator is the person who has ultimate authority and responsibility for the overall direction of the aquatics program.
   B. This committee recognizes the need for certification in aquatic administration, and recommends that for the immediate future, the list of professional standards approved by the Aquatics Council be circulated and used by State Boards of Education and other concerned agencies so that hiring personnel will have guidelines to assist them.
   C. It is further recommended that universities be encouraged to reevaluate their undergraduate and graduate programs to increase the emphasis on aquatics education.

II. Proposed Personal Qualifications Required for Certification
   A. An aquatic administrator must be at least 21 years of age.
   B. He must have at least two years of experience as an aquatic specialist as defined by the Aquatics Council.
   C. Although not required, it is strongly recommended that the aquatic administrator have at least a B.A. or B.S. degree, and preferably an M.A. degree in physical education or recreation with an emphasis in aquatics.
   D. The aquatic administrator must have experience equivalent to that outlined in the Standards for the Aquatic Administrator by the Committee for Professional Standards in Aquatics.

III. Proposed Method for Assessing Certification Qualification
   A. This committee recommends the ultimate establishment of a five-member Board of Certification which will construct an open-ended checklist to evaluate an applicant's skills, knowledge, experience, and background.
   B. This board will either authorize the certification of the applicant or recommend procedures by which he can update himself before reapplying.

IV. Levels of Professional Growth to Levels of Certification
   A. There should be a progression chart adopted by the Aquatics Council.

V. Proposed System for Administering a Certification Program
   A. It is recommended that the actual certification be done on the state level. This certification would be authorized by the AAHPER Aquatics Board of Certification.

Addresses Presented to General Assembly

Conference Editorial Committee. John L. Cramer, chairman, Virginia Arvidson, Margaret Buck.

A Challenge for Aquatic Educators

JOHN SPANNUTH

Aquatic Administrator
Amateur Athletic Union
Indianapolis, Indiana

It is time that we began to ask some questions about aquatics. What has been done in the past? What are we doing now? What will be done in the future? We are existing under old philosophies that should be overhauled. Our aquatic programs need a new look. To accomplish this, we have to set goals and prepare for change, now!

To begin, let's look ahead briefly to the year 2000. People will be working a 20- to 30-hour workweek and thus, will have more time to engage in leisure activities. What will aquatics be like then? People will learn to swim well in four 20-minute periods. Every community will have wave-makers in its pools. Swimming stadiums will be built to accommodate 20 to 30 thousand spectators. Swimming times will be as follows: 100-meter free -- 40.5; 100-yard free -- 40.0; 100-yard fly -- 39.9; 1,650-yard free -- 14 minutes. Because the average, healthy person functions at less than 6 percent of his physical and mental capabilities, hypnosis and ESP may enter into all phases of aquatics to increase motivation.

The success of current aquatic programs can be measured by the number of people who learn to swim. Without millions of people being able to swim we can't possibly have well-rounded aquatic programs. Credit for the success of these programs must be given to organizations such as the YMCA-YWCA, Boys' Clubs, American Red

Cross, Catholic Youth Organization, Jewish Community Centers, Boy Scouts, municipal pools, and community centers. Without these organizations, over 70 percent of our present swimmers would not be able to swim.

There are three major steps that we need to take immediately with these organizations to move forward in aquatics:

1. Include more aquatic courses in our schools. At a national aquatic conference held in Washington, D.C. several years ago, I pointed out that we have three major physical education facilities: (a) athletic fields for football, field hockey, track and field, and other activities; (2) gymnasiums for basketball, volleyball, gymnastics, dancing, etc., and (c) aquatic facilities for synchronized swimming, diving, swimming, and SCUBA. One third of all physical education courses taught in schools should be aquatic courses.
2. Encourage compulsory learn-to-swim courses at schools and follow-up programs. Students are required to take art and music -- why aren't they required to learn to swim? Some schools do have this requirement. Over 10 years ago, I was the aquatic director at the Reading (Pa.) YMCA. Although Reading High School did not have a swimming pool, its students were required to be able to swim 20 yards before graduation. I tested each senior and coached all the nonswimmers in a special class after school until they could swim 20 yards. After the push is on for learning to swim, we must promote advanced classes in aquatics for all students. After students leave school for the day, they should be encouraged to engage in aquatic activities on their own.
3. Initiate incentive programs. Schools should be ranked in each state according to the percent of students in each grade who can swim. Ask yourself, what percent of the third or fourth graders in your hometown can swim?

In addition to these programs, we should reevaluate all of our aquatic courses. We need to raise our standards and include more competition in classes. Students in the lower grades begin to play and learn the fundamentals of basketball and baseball very early. The theory is: The more children play against each other, the more they learn and the more fun they have. Why don't we have more competition in aquatic courses? I am talking about all aquatic sports. Also, we should treat our women as equals. Although we expect them to be rough and to compete equally with men (in life, this is called women's lib), we don't treat them as equals in physical education classes. They, too, should play rough games and learn how to fight.

Aquatic Facilities

To encourage the building of more aquatic facilities, we first must use existing facilities to their fullest capacity. How many pools do you know of that are drained part of the year? Why are they drained? Can something be done to keep them open longer? Is it possible to convert outdoor pools to year-round pools? Can bubbles or buildings be placed over outdoor pools? Can indoor pools be used more? Are high school and college pools being utilized during the summers? What about weekends and evenings?

Second, we need to make it possible to secure additional facilities. We must educate the masses as to why we need more pools. It is necessary that we make people realize that every school, city, town, and village needs at least one pool. We need to sell communities, states, and national organizations on well-rounded aquatic programs for people of all ages. No one is ever too old to learn to swim. However, we should not push for a new pool just because a swimming team needs water time. We should push for a pool because every person needs the benefits that a pool offers.

Third, we need to encourage organizations such as NSPI to draw up standard plans for different types of aquatic centers. These plans should be available to all interested individuals and organizations at no cost. I receive many letters about pool construction and you wouldn't believe some of the mistakes that are made because an architect or builder never saw a pool.

Fourth, when planning an aquatic facility, we need to think 20 years ahead. We should not build just for current needs, but for future demands as well. We need to study population trends and possible problems of the future, and then decide what will be needed.

Last, we ought to determine the best methods of securing necessary funds to build these facilities.

Construction of Facilities

In the past, we have tried to build one swimming pool to fit the needs of all people. This is very hard to do. Aquatic centers should have several types, each for a specific use. I envision seven different possible types of pools:

1. All-purpose pool -- 3 to 12 feet deep
2. Instruction pool -- used to gain confidence; inexpensive
   a) 20 feet x 40 feet, $2\frac{1}{2}$ to 3 feet deep
   b) 60 feet x 30 feet, $2\frac{1}{2}$ to 3 feet deep
3. Indoor competitive pool -- 75 feet x 60 feet, 4 feet deep overall
4. Deep water pool -- may be used for synchronized swimming and water polo
5. Olympic size pool - 50 meters x 20 x 25 meters
6. Wave-making pool
7. Wading pool - splashing pool for very small children.

Aquatic Programs for Everyone

Swimming is not just for competitive swimmers or just for healthy children who can run around and shout and play. It is an activity that all segments of our population can enjoy and benefit from. Thus, we need to ask ourselves, "How good a job are we doing of including all of the population in our aquatic programs?" Let's take a look.

Physically handicapped. It has been proved that people with physical disabilities can learn to swim. Many sections of our country have classes for them. The National Wheelchair Games, held in the United States every year, include over 10,000 athletes. In addition, 56 nations throughout the world are engaged in the Paralympics, an international competition held every four years for the physically handicapped.

Mentally handicapped. The Special Olympics program sponsored by the Joseph P. Kennedy, Jr., Foundation has encouraged many mentally handicapped people to "take to the water." My friend Eunice Kennedy Shriver told me at Hyannis Port that her mentally retarded sister could not do well in any physical activity except swimming. She said she is a beautiful swimmer. For those of you who have never seen a Special Olympics, you owe it to yourselves to see one.

People in low income areas. More pools need to be built in low income communities. Where pools do exist in these areas, the majority of the time is used for recreational swimming. These people need to learn to swim and have advanced classes, including lifesaving. Instructor courses could be offered so that the high school students of these communities who are skilled swimmers can teach others to swim.

Retired adults. After people retire we mistakenly and cruelly put them "out of pasture" and forget that they exist. We need to keep them active, physically and mentally. Aquatics, the best carry-over sport, is just right for older persons. Let's get them back in the water.

People 25 years of age and older. There are thousands of former competitive swimmers who hung up their bathing suits when they graduated from high school and college, and there are many people who have never swum on a team. These people need to be encouraged to swim on a regular basis. To meet this need, the AAU, after extended medical and psychological research, has recently organized a Masters Swimming Program. The program, a logical extension of the Red Cross Swim and Stay Fit Program, will officially start in January 1972.

People in prisons. Have you ever been inside a large prison? If so, you know that there are thousands of individuals locked behind bars who need something to do, including physical activity. What physical education facility could help them as much as a swimming pool?

Professional Aquatic Leadership

The programs I have been discussing are not "fly by night" projects but very sophisticated programs that must be directed by professional aquatic leaders. Leadership is the one indispensable factor that will contribute to their success or failure. A strong leader makes for a strong pr gram. For example, at the University of Oregon there is Don Van Rossen; at the York (Pa.) YMCA there is John de Barbodillo; and George Haines is at the Santa Clara Swim Club in California. We have to work harder at developing superior professional aquatic leaders. The day will arrive when aquatic professionals will be on equal ground with dentists, attorneys, and school administrators. However, this won't happen overnight or without a lot of hard work. In preparing for this goal, we need to ask how we can develop and keep aquatic leaders. For one, we can work toward improving their working conditions. In many cases, aquatic directors and top coaches must work when other people are playing. They do not work from eight to four. Prime pool time is 4 p.m. to 10 p.m. and these professionals must be there during that time. We need to secure more benefits and better working hours for them.

We need to have the best aquatic program in the world. We must decide to do something now about improving the professional standards of aquatic educators. If we say we will do it someday or sometime, it won't get done for years. Let's get in gear now and go!

Status, Review, and Compilation of Existing Certification in Aquatic Programs

MILTON ORPHAN

Aquatic Director
Highline College
Midway, Washington

I am honored to speak to this body of aquatic personnel, as my reason for being here is a result of the questions, challenges, and information that I set forth in my talk at the First Professional Standards Conference.

After the first conference, I was assigned the task of compiling information on the instructional and leadership qualification programs used by national agencies to develop aquatic personnel. I have spent the last two years gathering this information.

Since not all of you attended the first conference, let me briefly acquaint you with the procedures. About two years ago, some 280 individuals met in Washington, D.C. to study various approaches to certification, develop certification standards in specialized areas, and prepare guidelines for professional standards in the aquatic education of physical educators, aquatic specialists, and aquatic administrators. For each of these three professions, five required areas of concentration were determined: (1) skills, (2) knowledge and content, (3) methodology, (4) program offerings, and (5) maintenance and operation of equipment and facilities.

The first conference was held because of the increasing demands upon physical educators who, in the past, had considered themselves professionally skilled as swimming teachers, aquatic specialists, aquatic directors, or program coordinators if they had passed

the ARC Water Safety Instructor's course or the YMCA Leader Examiner's course. Many who had only senior lifesaving were hired for responsible positions. Although I am not condemning the ARC or YMCA for the general misuse of their great programs, I do not consider that their objective is to train professional aquatic personnel. Nonetheless, administrators continue to recognize these programs as the "standard," and as a result, the aquatic field contains many poorly qualified, untrained persons. In addition, universities have shown little accountability by seriously neglecting the aquatic programs in their physical education curriculum, and so have aided the perpetuation of mediocracy in the field.

The number of semi-trained individuals has grown tremendously because of the increased need to provide specialists in aquatics. Aquatic personnel of the future must be professionally trained, and have the ability to plan, execute, and administer a well-rounded aquatic program. These individuals must have teaching ability, personality, adaptability, physical vigor, and skill diversity to accomplish these tasks. The job is too big and complex, and the public too demanding to allow for the "suntanned whistle blower" of the past.

I will now return to the information I have gathered from a number of national agencies to show the influences on the professionally trained aquatic person. The information and correspondence received from each of these agencies was outstanding. I would like to thank each organization for its great cooperation, and to thank particularly Harold Friermood, executive director of the CNCA.

The compilation of the material was mechanical, but some intuitive reasoning and investigation was done. Two or three additional people cross-examined the evidence to be sure that I was not reading in information that was not accurate.

Letters were sent to the agencies considered to have aquatics programs, and 13 responses were received. These agencies are listed on the left side of Chart 1 and across the bottom of Chart 2. The first column in Chart 1 indicates the areas that are taught in the regular instruction program, the number corresponding to the specialization areas listed on each chart.

The second column gives the derivation (or pattern) of the program from each agency. This was one area in which I used help from others to be sure my ideas and information were accurate.

The third column shows the areas where instructor training programs exist. Interestingly, some programs offered by agencies do not have programs for training instructors so the agencies must recruit instructors from other sources. There are two agencies that offer an instructor program not in the regular teaching curriculum. The YWCA offers a program in water safety aids, or leadership training, and the ARC offers a program for the development of preschool instructors. The Boy Scouts are planning instructor training courses.

The fourth column lists certification programs for specialists. I think most of the programs are self-explanatory except perhaps for the new YMCA Aquatics Program adopted at the Sixth National YMCA Aquatics Conference in January 1971. The old program offered three levels of aquatic leadership: one volunteer level -- the leader examiner, and two professional levels -- the aquatic instructor and the aquatic director. The new program has five levels of leadership development, starting with the basic leader (probably comparable to the water safety aide but with some interest specialization), the swimming instructor (comparable to the leader examiner), and the aquatics specialist, which is a completely new classification featuring nine possible specialization areas. The other two levels -- the aquatics instructor and the aquatics director -- have been retained but their qualification requirements have been greatly reduced. The new YMCA program seems great until one looks into the various qualifications required for each level. It appears that the YMCA program is designed not to upgrade its applicants, but to downgrade its program to meet the level of the applicants.

In contrast, the specialization courses of the various SCUBA programs are generally strong and very demanding.

The ARC programs for water safety instructor trainer, water safety instructor, and beginning instructor need to be overhauled. In the Seattle-King County area, we are trying an innovative program using the basic ARC guidelines, but changing the program to meet the needs and capacities of the individuals being served. For example, because of the downgrading of age for the WSI from 18 to 17 years of age and the inability of the instructor's trainers, we are trying to screen applicants carefully and give them adequate opportunity to experience a practical teaching situation. In our program leading to the beginning swimming instructor certification, we are giving Phase I (the practical individual skill section of the WSI), and the knowledge and methodology of teaching, history of the ARC, and skills and practice teaching through the advanced beginner level. The applicant spends from six months to one year in the program, during which time he must teach two classes at the beginning and advanced beginning levels under the direction of another water safety instructor. Upon completion of the program, the candidate may continue with the WSI or specialization program if he desires. This gives him an opportunity to devote greater time to the specialized areas of aquatics and to the practical application of knowledge, techniques, and skills to be practiced. But not all ARC chapters are concerned with the program problems of leadership development and training.

Although some of the ARC specialization programs lack good definition and teaching syllabuses, the basic idea is fine. In fact, the ARC should continue to develop more specialization programs and add new materials to those already existing.

Chart 1

EXISTING INSTRUCTIONAL AND LEADERSHIP QUALIFICATION PROGRAMS
(National agencies sponsoring instruction and leadership qualification programs in aquatics)
by Milton Orphan, Jr., Highline College

Key for Charts 1 and 2: Specialist Programs: 1 Small Craft, 2 Water Polo, 3 SCUBA, 4 Diving, 5 Competitive, 6 Synchronized, 7 Handicapped, 8 Instruction, 9 Lifesaving, 10 Camp Waterfront, 11 Surfing, 12 Preschool, 13 Water Skiing, 14 Water Aid or Leadership. (Items marked with an asterisk indicate a future program area.)

	Teaching Program	Instructional Program Pattern	Instructor Program	Instructor Certification Program	Instructor Qualification Program	Personnel Hiring Qualifications
YMCA	1, 3, 4, 5, 6, 7, 8, 9, 12, 14.	YMCA	1, 3, 4, 5, 6, 7, 8, 9, 12, 14.	Specialist: 17yrs. 3 yrs.+ Institute Swimming Instructor: 17yrs. 25 hrs.+ Institute Basic Leader: 17 Institute + 3yrs.	AQUATIC DIR. 2lyrs., 3yrs. in program-1 as Instructor + Seminar AQUATIC INST. lyr. as Swim. Instr. + 300 hrs.+ Institute, 18 yrs.	YMCA AQUATIC DIR.
American Red Cross	1, 4, 6, 7, 8, 9, 14.	ARC	1, 7, 8, 9, 12,14.	WSI-Class or Institute: 17yrs. Beginning Swim Inst.: 17yrs.	WSI Trainer-Institute and appointment	Water Safety Instructor (WSI)

	Teaching Program	Instructional Program Pattern	Instructor Program	Instructor Certification Program	Instructor Qualification Program	Personnel Hiring Qualifications
Boy Scouts	1, 8, 9, 10, 3*, 13*, 14*.	ARC-YMCA	1, 10, 3*, 13*, 14	Boating and Waterfront	ARC	Own Course WSI
National Jewish Community Centers	4, 5, 6, 7, 8, 9, 10.	ARC				WSI
Boys Club of America	8, 9, 14.	ARC				WSI
YWCA	7, 8, 9.	ARC	14.			WSI
Camp Fire Girls	8, 9.	ARC				WSI
Girl Scouts	8, 9.	ARC				WSI
Prof. Assn. of Diving Instructors (PADI)	3.	PADI	3.	Specialized Course	Specialized Course	PADI
Nat. Assn. of Underwater Instructors (NAUI)	3.	NAUI	3.	Specialized Course	Specialized Course	NAUI
Underwater Swimmers' Association (UWSA)	3.	UWSA	3.	Specialized Course	Specialized Course	UWSA
American Camping Association (ACA)						ARC, BSA, YMCA
Nat. Recreation Assn. (NRA)						ARC, YMCA

Chart 2

Instructor Qualificat. Programs	YMCA	ARC	BOY SCOUTS	NAT. JEWISH	BOYS CLUB	YWCA	CAMP FIRE	GIRL SCOUTS	PADI	NAUI	UWSA	ACA	NRA	AAHPER
	Aquatic Dir. --- Aquatic Inst.	Water Safety Inst.												Aquatic Dir. --- Aquatic Inst.
Instructor Certificat. Program	Swim Inst. --- Spec. Leader --- Basic Leader	Trainer (WSIT) WSI --- Beg. Inst.							PADI Inst.	NAUI Inst.	UWSA Inst.			
Instructor Program	1,3,4, 5,6,7, 8,9, 10,11, 12,14.	1,7,8, 9,12, 14.	1,10 3*,13*, 14.						3	3	3			
Teaching Program	1,3,4, 5,6,7, 8,9, 12,14.	1,4,6, 7,8,9, 14	1,8,9, 10, 3*,13*, 14*.	4,5,6, 7,8,9, 10.	8,9, 14.	7,8,9.	1,9.	8,9.	3	3	3			

The last column in Chart 1 refers to the personnel hiring qualifications that each of the agencies uses. The qualifications, other than for the SCUBA courses, are generally from the ARC and YMCA. The Boy Scouts also offer some fine training courses, but they are not always completely professional in nature.

In Chart 2 the program voids in the development of aquatic professionals are easily noted. In fact, except for SCUBA programs and those offered by the ARC and YMCA, there are few or no programs, and certainly no standardization of programs, for the development of aquatic specialists. These are the men and women who serve as aquatic directors in universities, school systems, and large urban recreational programs. They are ARC area and state directors, YMCA-YWCA and YMHA-YWHA aquatic directors on state and area levels, and aquatic directors in the Boys Clubs of America. Yet, these individuals, who are responsible for the direction of our nation's aquatic programs, do not have a program or direction in which to steer future aquatic people in their professional educational development.

There are numerous aquatic associations, clubs, societies, and special interest groups that are doing a specialized job, but they often lose sight of the total picture by focusing solely on their own speciality. We need one strong aquatic organization, most logically the Aquatics Council of AAHPER, to be responsible for setting the standards for aquatic education. Otherwise, we will find ourselves further dividing into special interest groups, not concerning ourselves with the total aquatic world.

I can only suggest that we immediately adopt the recommended professional standards that so many of us have helped to develop. There may well be small differences of disagreement, but I think we all agree that the standards are realistic and workable, and in the future, through updating, these small problems will be worked out.

We must complete the task that we have worked on for the last two years. We must find ways of educating the public of these new standards and work out the solutions to implement them. Agencies, individuals, schools, and universities must all work together for this common goal. It will be the most aggressive, the most logical, and the most exciting and significant move that the aquatic field has made for a long time, and it will certainly aid in the total development of the physical educator.

Report of the Committee on Implementation of Certification of the Professional Aquatic Educator

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The idea of this report by the Implementation Committee is that, as in a track-meet relay, we are to pass the baton to you. However, this relay is different because you have options. You may (1) accept the baton as it is and run your assigned portion of the race, (2) demand modifications of the baton before you run, or (3) reject the baton and walk from the track. Before presenting its recommendations, the committee believes it will be helpful to you in your appraisal of the report recommendations if you experience vicariously the considerations that led to its final consensus.

In the beginning, the committee studied the recommendations of the 1940 and 1941 AAHPER Committees on Aquatic Leadership and the action-framework of the Aquatics Section in 1950. Next, some questions were posed for discussion and some tentative 1971 recommendations were drafted. Copies of the operating codes for the Committee on Aquatic Leadership and for the Aquatics Council were in hand.

The committee members experienced frustration in their quest for a ready-to-cook master plan. They recognized that certification is essential in many areas, both non-aquatic and aquatic. I, for one, must be assured that the person who removes my gall bladder is not a moonlighting auto mechanic, but a doctor whose expertise is surgery. I have a justifiable interest in the certification represented by his diploma and by the state in which he works.

Pool-program directors in many states are required by health department regulations to be knowledgeable about water purification and recirculation. For self-protection against liability, pool-program directors must employ persons with certifications recognized by law. In addition, employers must have a means for evaluating the qualifications of applicants for responsible specialty and administrative positions in aquatics.

The committee recognized that despite the needs for certification in aquatics, some pertinent considerations must precede proposals for implementation. Certification, whether specific or general, will have to guarantee that the knowledge and skills to which the certification testifies are valid and are the same in all universities.

The major obstacles to the establishment and maintenance of a certification system with few or no flaws are manpower and money. The Council must, therefore, be selective in the kinds of certification it will undertake. Committee members were compelled to reject any plan that would commit the Association or the Aquatics Council to policing all practices at all universities and to issuing thousands of certificates. It seemed apparent that each university would have to assume a large portion of the work and expense related to any system adopted by the Council. The committee judged it advisable to utilize existing certification available through nationally recognized aquatics organizations. Before we protest that the recognition of other certification systems is a one-way street, let us pause to acknowledge that these organizations are looking to the universities to supply them with the aquatic directors and master teachers needed for their programs.

As the committee members progressed, they realized that a time schedule was needed to indicate a logical order in which Aquatics Council actions, leading to certification, should occur.

It is understandable that many of you are impatient to begin AAHPER or Aquatics Council certification now, today. The committee believes, however, that precipitous action would be disastrous. Foundations must be laid, the reasons why the extensive progress made during the 1940s did not endure must be identified, problems must be anticipated, and solutions must be found. For example, a glossary of terms must be compiled and circulated widely. It is both futile and perilous to advocate certification when all of us are not speaking the same language. The approval and cooperation of college administrative officers and State Departments of Education should, and in some cases must, be obtained for the establishment of high level of professional certification. Many college aquatic departments must obtain faculty and administrative approval for curricular modifications, and perhaps the registrar must consent to a modification in the student transcript form.

A logical and methodical progression for Aquatics Council actions, culminating in systems of certification, is suggested by the letters froming the word SPEAR:

S -- Standards are fundamental to all subsequent steps. They were the purpose for the 1970 Aquatics Conference and, largely, the refinement of the 1970 standards has been the purpose of this conference. Further refinement will be necessary; in fact, reconsideration and revision of standards must be ongoing.

P -- Programs designed for the professional preparation of the aquatic educator should receive continued and increased emphasis. With a groundwork laid last year and refinements added this year, the need now is for a much more critical scrutiny of what should and can be done to aquatics curricula in the universities. Adoption by the universities of the curricular standards defined by the Aquatics Council must be urged.

E -- Evaluation of aquatic programs, old and new, and in terms of whether they meet Council standards, must be undertaken. The Implementation Committee has considered that this might be done by regional councils similar to those that now evaluate total programs of health, physical education, and recreation. At this time, however, the committee suggests a less cumbersome pattern involving the Aquatics Council.

A -- Accreditation should follow evaluation. Methods must be devised whereby a college program that has been evaluated and judged to meet recommended standards will be accredited to engage in certification.

R -- Recognition should be given to universities that meet program standards established by the Aquatics Council.

SPEAR -- Standards, Program, Evaluation, Accreditation, Recognition -- the pathway to certification.

IMPLEMENTATION COMMITTEE REPORT

Committee Members: Lloyd Arnold, National Director of Health, Physical Education and Recreation, YMCA, New York, New York
Virginia Arvidson, University of Oregon, Eugene
Glen Egstrom, University of California, Los Angeles
Fred Murphy, University of Colorado, Boulder
John Torney, Jr., University of Washington, Seattle

I. Premise

A. The Aquatics Council is concerned with improving the standards of training for aquatic educators. Implementation can be achieved in the following ways:

1. Develop professional standards for: (a) curricular offerings, (b) individual skills and knowledge, (c) the conduct of programs, and (d) equipment and facilities.
2. Develop an evaluation procedure for programs in the field.
3. Recognize outstanding programs developed in accordance with Council standards.

II. Recommendations

A. Subject to meeting minimum standards approved by the Aquatics Council, universities should develop skill performance criteria and judge students' qualifications in each of the areas of aquatic specialization, using, where they exist, the criteria of recognized national organizations that certify abilities in those specialized areas.

B. Subject to meeting minimum standards approved by the Aquatics Council, universities should develop teaching skills and judge teaching competencies in those areas of specialization.

C. In the area of professional aquatic preparation in universities, the Aquatics Council should not engage in certification at the present time but instead should move toward accreditation by implementing the following measures:

1. Develop further professional standards to apply to programs in universities that are training aquatic instructors, specialists, and administrators.
2. Develop standards for professional competence in knowledge and skill achievement areas of professional preparation of aquatic instructors, specialists, and administrators.
3. Publicize and promote vigorously, widely, and continuously the standards developed by the Council.
4. Maintain active subcommittees to develop curricular materials and update training standards for professional aquatic specialists.
5. Implement a procedure for evaluating individual university programs by an evaluation committee.
   a) The committee shall be composed of three members, each of whom shall serve three years, with one member (the chairman) to be retired and one new member to be added each year.

(1) One each shall be appointed from among AAHPER members residing in the Eastern, Central, and Western parts of the United States.

(2) One member shall retire each year (after his third year of service) and a new member shall be appointed to replace him. The member entering into his third year of service shall succeed to the committee chairmanship for that year. If the chairman cannot complete his term of office, the next senior member of the committee will complete the unexpired term and subsequently serve his regular term of office.

(3) Members of the committee shall be appointed by the chairman of the Aquatics Committee. He will appoint a replacement for any member who is lost to the committee before the completion of a full three-year term. He may revoke the appointment of a member who is judged to have failed to participate actively and constructively.

b. The Evaluation Committee shall have a subcommittee composed of one representative from each of the AAHPER districts.

(1) Each representative shall be a member of AAHPER.

(2) Members of the subcommittee shall be appointed by the chairman of the Evaluation Committee.

(3) A member in a district may be consulted by the chairman of the Evaluation Committee for additional information concerning the quality of aquatic programs at an institution that is in that district and that is applying for Council recognition of its aquatic program. He will also assist and advise the applying institution.

c. The chairman of the Evaluation Committee shall make a report at the Council's annual meeting in conjunction with the annual AAHPER convention. He shall also make a report at other interim meetings of the Council.

6. Accord recognition to universities having professional programs that subscribe to the standards established by the Aquatics Council.

Addresses Presented to Discussion Groups

Instructor of Swimming

MARLENE ADRIAN

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Before certification of the swimming instructor can be discussed, one must define swimming instructor. At the first National Aquatics Conference on Professional Standards held in February 1970, the swimming instructor was described as a person concerned with teaching swimming and water safety skills. The realm of teaching swimming and water safety skills is quite broad. It includes teaching the learned, the non-learned, and the mis-learned; males and females; the young and the elderly. Teaching begins with basic locomotion and experimentation in the water, and proceeds all the way along the continuum to the expertise of 15 strokes. The number 15 is merely used to indicate that there is no basic number of strokes such as exist in textbooks, but that one can and should create his own strokes. Witness the dolphin butterfly stroke!

Can we then expect one certificate to be applicable to the total realm of teaching swimming? Do existing courses provide the necessary qualifications for all aspects of teaching swimming and water safety skills? A comparison of the recommendations of last year's conference with those presented at this conference reveals a similarity between them. Furthermore, at both conferences a statement was made that the demand for swimming instructors is greater than the supply. It is thus important that the qualifications for instructors be definitive and offer assurance that adequate training will be provided to allow the swimming instructors

to teach swimming. Both sets of recommendations, however, are stated in general terms. In most cases the words "knowledge of," "skill in," and "methodology" are used. Knowledge, content, and understanding are nonobjective words and do not indicate how they will be used. The only definitive qualification is found in the phrase "to teach and to analyze." But under the aspect "to teach" is also listed "to demonstrate." Does one need to demonstrate in order to teach?

The following two examples are cited: A young girl finally learns to demonstrate the inverted breaststroke in her water safety instructor course. She then teaches nonswimmers at summer camps for 16 years. During that time, she never finds an opportunity to teach or demonstrate the inverted breaststroke. Another girl who was injured in an automobile accident now teaches swimming from a wheelchair. Although she indicates that it seems peculiar not to be able to demonstrate, she is nontheless teaching and her students are learning. To pursue this point further, let us briefly examine the purpose of demonstration. Demonstration is done so that students who cannot see a movement pattern because of its speed will be able to observe it in slow motion. Research has shown that not only are different muscle intensities used in the slow and fast motions, but also different muscles are utilized. Often the range of motion varies from slow to fast and does not vary in the same way for all individuals. Therefore, what is demonstrated may not be desirable for imitation. Furthermore, demonstrating requires instructors to learn demonstration skills in addition to swimming skills.

The final question in this area hinges on qualification via demonstration. Does a teaching candidate need to be proficient in demonstrating every skill in the instructor program? Since the greatest demand for the swimming teacher is in the area of beginners or nonswimmers, could our communities be better served if we concentrated on developing expertise needed to teach the fundamentals of swimming rather than teaching all phases of instruction in a 30-hour course? Do we lose many potentially fine instructors because they cannot succeed in standards which are unnecessary for teaching nonswimmers? Ski instructor schools often arrange for teaching candidates who cannot demonstrate well to teach the three- to eight-year-olds, and when they have reached sufficient proficiency to demonstrate the stem-christie and parallel turns, they can advance to teaching intermediate to advanced skiers. Why not then have one certification for instructors of beginning swimming and another for instructors of advanced swimming? This would mean that general, as well as specific, standards of certification would need to be developed.

Because the "how and why" of teaching methodology is so important, qualifications for certification must include some means of measuring a candidate's ability to utilize appropriate methodology (the how) and progression (the when). There are three types

of methodology, each of which uses a continuum. The first is the command method leading along a continuum to the discovery method; the second is a group method which leads to an individual method; the third is the teacher- or subject-centered method which leads to the student-centered method.

If a teacher uses the subject-centered method, she can consult books which indicate what to do on day 1, 2, 3 and 4, how to progress from one stroke to the next stroke, etc. But does this method consider the individual needs of various students in the class? If a student-centered approach is used, the classroom material will be selected according to the needs of the students. For example, if a student is permitted to move in deep water by himself, using at least two methods of propulsion, will he necessarily select the same methods as another student? Similarly, some persons prefer diving into the water with a somersault rather than head first because they feel more secure landing on their feet. Why then are so many skills taught with an unfounded hierarchical order of progression? In addition, swimming performance is often evaluated by common standards such as swimming 40 yards in 28 seconds. This standard does not take into consideration the fact that swimmers vary greatly in height. The methodology which a teacher uses must be based upon a fair evaluation of the students.

In the student-centered approach a teacher considers the whole human being -- his body shape and size, joint actions, muscle force, torque, lift, and drag -- and then teaches the skill accordingly, with the result being a performance. If, as in the subject-centered approach, one looks at skill, analyzes it completely, and then inputs it to the human, it is questionable what the resultant performance will be. Appropriate methodology thus hinges upon the ability to analyze the mechanical, physiological, and psychological aspects of movement. Movement cannot be divorced from the human body. To analyze the mechanics of movement of the human body in water one must look at the two factors of water and the human, and see how the components of each affect speed, direction, and swimming position. The concepts of inertia, momentum, work, power, and energy cost need to be defined and applied by the teacher.

The concept of individual differences needs to be recognized in teaching. For example, the beginning swimmer usually incorporates excessive muscle contraction and drag resistance, and utilizes fast cadences of limb movements in learning situations. This implies that the task of teaching beginners may differ from that of teaching advanced swimmers. However, individuals cannot be grouped. The swimming teacher must be able to select what to change, and how to correct faults in order to help each student improve individually and make his stroke more efficient. This suggests that a major behavioral objective for the student might be to be able to describe his movements accurately and to state why he is moving efficiently or inefficiently.

This then means that certification qualifications must be stated in objectives which can be measured and evaluated. For example, the teacher can: (1) select what to change in a student's movement pattern, (2) state how to make the change, (3) set the environment so that the student can describe her movement and differentiate between effective and ineffective movement, and (4) select meaningful teaching information from research studies.

Because this method of making suggestions and corrections to the swimmers places greater emphasis upon the teaching aspect, an apprenticeship must be included as part of the training program. It may involve actual student teaching and/or videotape analysis in which persons on film are analyzed and suggestions are given and then compared. This type of program would produce swimming teachers, not lifeguards. Why must a swimming instructor maintain a current lifesaving certificate if he is in a situation where a lifeguard is available? If our technology shows that we can produce wave-making machines, why can't we produce a setting where swimming instructors teach and do not have to be concerned about lifeguarding?

Universities need to concern themselves with developing qualified swimming teachers. They will need to upgrade their courses if standards for instructor certification have measurable criteria.

The State of Washington will soon implement a program for teachers, known as the Fourth Draft. It will be utilized in the state to certify and maintain the certification of teachers in many fields. The criteria that the program is developing for the certification of physical educators could be adapted to devising standards to evaluate the performance of swimming instructors. Programs such as these deserve to be studied by the Aquatics Council.

In conclusion, what might the Aquatics Council or this discussion group do to help solve the problem of setting certification standards? AAHPER's publication, What Research Tells the Coach, could be utilized with a suggested publication of What Research Tells the Swimming Instructor. The published one on swimming dealt mainly with physiological research and did not treat the subject of methodology or mechanical analysis. Also, the Aquatics Council might develop and encourage others to develop materials for apprenticeships. Videotapes, films, and other analyses and correction devices need to be available for swimming instructor courses. Finally, the Aquatics Council could give input to the universities to encourage upgrading of their courses.

Instructor of Small Craft and Open Water Activities

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During the last two days, many questions have arisen concerning certification of aquatic professionals. The most significant questions are:

1. Is there a need for professional certification for small craft specialization?
2. If so, what criteria might we use?
3. What is the credibility of existing small craft certification programs?
4. What systems of small craft training seem appropriate?

At the onset, I would like to provide a strong statement and then attempt to give supporting evidence.

STATEMENT: At this time, I do not believe this conference should attempt to develop national certification for small craft personnel. Rather, all small craft training should be integrated into existing supportive programs.

To support such a statement, I would like to develop my responses into three phases:

Phase 1 - Positive factors of existing programs.
Phase 2 - Negative factors of existing programs.
Phase 3 - Recommendations.

Phase 1:

There are many services available to schools and professionals if those interested would only ask. Thousands of people -- youth and adults alike -- are certificated by such groups as the ARC, YMCA, Catholic Youth Organization Camps, Boy Scouts and Girl Scouts, U.S. Coast Guard Auxiliary, U.S. Power Squadrons, yacht clubs, park and recreation districts, and state departments.

Depending on the type of craft being considered or the level of skills desired, some form of training is available. If certification is desired, most all of these groups offer certificates at various levels. Probably a major factor to consider is what groups offer instructor training. Should more instruction be sought, a special request could be made of the organization in question. Most of the groups that I have associated with have been very cooperative.

Phase 2:

There are major factors that make standardization very difficult, if not impossible:

1. Programs and credentials vary from state to state, etc.
2. Curriculum and standards vary among different groups.
3. Water conditions and regional conditions vary throughout the year.
4. Weather is in constant change.
5. There are many types of boats and canoes.
6. There are many personal and individual variables.

If anything, those in the schools should offer more opportunities in boating. I should point out that a pool is a great place to provide some boating experience; one does not always need a river, lake or pond. To learn some basic boating skills, emphasis should be on use and modifying programs rather than deleting small craft activities for whatever the reason.

The incorporation of a national certification at this time would only provide another barrier in the training program. The chances are better than even that fewer people would be trained because administrators would be forced to look for leadership with a specific type of credential. And how would the groups that offer such small craft activities be able to pay for such highly-trained personnel?

What about enforcement? Who would be responsible for maintaining the credentials? What would happen if a given person on a waterway didn't have a certification? A whole series of questions and concerns arise when opening Pandora's box of certification.

The last point that I will cover will be consideration of the audience we are trying to reach -- e.g., the college or university or the high school. Throughout this conference it has not been clear to me whether the concern of the leadership is to instill certification for the hiring of college small craft teachers or for their students. The same goes for the high school teachers and their students.

Recommendations

Let us urge our administrators, state leaders, and boating organizations to work closely together. The goal of this conference and its participants should be the implementation of existing programs into a more meaningful and safe boating effort. With boating activities soaring to astronomical figures each year, every group concerned with safety should be working together.

At the next conference, I would like to see more state leadership -- by the State Department of Education, Highway Patrol, Maritime Personnel, and similar groups.

It has been obvious throughout this conference that this body of education needs more support by all groups.

In particular, it would be highly advisable that within the state hierarchy, revenue from gasoline taxes and other means of allocation be used to purchase more small crafts for schools, as well as to provide boating conferences for educators.

Another recommendation that should receive top priority is to have marinas and stores that sell boats and canoes promote safe boat handling by providing free lessons prior to the sale of a boat. With boating laws becoming so stringent, an amendment to some existing law should mandate free lessons prior to the sale of a craft.

With some 50 percent of the drowning fatalities occurring from boating accidents, it would be wise to consider statewide exams. This would be one checkpoint to insure training.

Many diversified thoughts have been expressed and questions have been posed, so what remains is to put together our best efforts to achieve unity of small craft safety. Let's talk further about these ideas and take action.

Instructor of Competitive Swimming

DAVID H. ROBERTSON

Director of Swimming
New Trier East High School
Winnetka, Illinois

For 61 years my school has had a swimming pool and has sponsored competitive swimming, physical education class swimming, and every other phase of swimming.

During these 61 years, my school has had only three head swimming coaches. The first and second men did not have college training in the field of aquatics; in fact, they had no college training at all.

I started teaching at New Trier East High School in 1946. I did not have training in aquatics during my undergraduate or graduate training. I do feel, however, that I received a fine base of studies in the field of physical education. To this day I feel that this sound base has offered me continued confidence in my coaching and teaching abilities and in the overall philosophy of my role in activity for children, young people, and adults.

But the startling think is that the New Trier East program has had to be developed by the coaches themselves. You might call it "continuous inservice training." I did, however, receive help from various sources in developing an aquatic program.

First, I learned my trade by traveling to Florida at Christmas time each year to attend the two-week College Coaches' Fort Lauderdale Swimming Forum. The lectures and programs have given me the opportunity to listen to and watch our great coaches. Second, I feel that my seven years at National Red Cross aquatic

schools, first as a student and later as a member of the staff, have proved invaluable. Those 10-day camps gave me my first opportunity to associate with "time-worn" instructors who, through the simple fact that they had had their "feet wet" for many years on the pool deck or waterfront, were able to guide my ideas toward first aid, accident prevention, and water safety. Third, I believe I learned my trade because I had to. My school hired me because they thought I could do the job. I have been trying now for 26 years to satisfy their initial faith in me.

But don't you agree that this is a very risky and unstable way to approach the training of men and women who are to be entrusted to supervise and direct our swimming programs? Could this be one of the reasons why each year approximately 7,000 people drown in the United States? Maybe this is why some pools have such limited use. Maybe this is why programs offered in some pools lack imagination.

I believe we must request schools to develop a field of study which, upon completion, will award the student a major in aquatics similar to what we now have for the dance major.

This is the only possible way to upgrade this very important phase of physical education. In years to come, a school, organization, or club will be able to hire a certified young man or woman to step into an aquatic position with a sound background in conducting a year-around, multi-activity aquatic program.

Based on my 26 years of experience, the following are some things which I believe should be offered in the aquatic curriculum.

I feel there is tremendous need for instruction in emergency procedures. That awful moment when someone loses consciousness in your pool demands professional action immediately. First aid and an appreciation for accident prevention must also be learned.

It is necessary to understand completely health standards -- to put it into a swimming pool director's words, "the understanding of and the maintenance of clean water." This is the job of the director of swimming, not the maintenance men.

The aquatic specialist must know how to organize. A course that will impress upon him an appreciation of organization, such as bookkeeping or planning records of requisitions, is good training for the many types of duties that an aquatic specialist must perform.

I believe the aquatic specialist must know how to teach beginning, intermediate, and advanced swimming. He must be a teacher. He must appreciate the importance of teaching swimming to everyone. He must know how to teach individuals, small groups, and most important, large groups. The average swimming program in the United States lacks imagination and drive because it is so small.

I believe every aquatic specialist must have experience in teaching young children, teen-agers, and adults. This will demand a complete knowledge of all strokes and activities.

The modern coach must have a great appreciation for body strengthening and know how to train competitive swimmers from the beginning of a season to the end, and from one year to another.

I believe that an appreciation of the need for discipline must be offered in every training course. The control and direction you are able to integrate into your program are dependent upon the type of a disciplinarian you are.

The future is in our hands. The field of aquatics needs trained leaders who have received very specialized training. This training must be done by our colleges and universities. In many ways the need for certification is secondary. Once aquatic-minded men and women receive training, which is so badly needed, certification will become almost automatic.

Instructor of Skin and Scuba Diving

JOHN OAKES

Parkdale, Oregon

The intent of this speech is to challenge and stimulate thought and controversy in the area of SCUBA training and certification. Perhaps I was chosen for the chore because I was lucky enough to have been allowed to grow and learn my trade pretty much on my own. I have had all the advantages of independent action and thought, and have had to suffer none of the political infighting and position-seeking characteristic of national certification agencies. I slipped into the profession through the back door as a master-teacher of English and humanities who happened to be an avid recreational and practicing commercial diver. Since my certification by the National Association of Underwater Instructors (NAUI) in 1967, I have turned gradually toward developing college and university advanced diving curricula. I subsequently wound up here with the job of poking sharp sticks into traditional balloons.

With that as background, I would like to answer the problems posed here of certification, the necessity for proper accreditation, and the credibility of existing programs.

Of all the committees and disciplines represented at this conference, diving is in a unique position. Our real experts are still living. Cousteau, Bhenke, Bond, and company are still alive and actively looking over our shoulders. The first man to do something is the only real expert. When a second joins him, both are

reduced to amateur status, and when a third party shows on the scene a profession is born. Ours is a very young profession and pretty much at the third-man stage.

Currently, our instructors of recreational diving are training most of our scientific divers and many of our professional underwater technicians. This is an anachronism. "Amateurs teach amateurs to be amateurs," and we now have far too many diving instructors who can only charitably be called semiprofessionals. A professional diving instructor makes his living teaching. In areas of high population, most are unable to do that without a vested interest in a commercial enterprise. That is tough on ethics and the quality of instruction. The commercial interests (bless them in their proper function) have held on to instruction for obvious and natural economic reasons, but they have helped to keep diving instruction from becoming a genuine profession. Just how much can one afford to modify well-rounded, complete, safety-oriented diving instruction to fit a profit and loss statement? To have a profession colored by commercial interests is a paradox of huge semantic and philosophical proportions. Give the equipment, logistics, and hardware businesses to the commercial interest; then push him hard for quality and service. Be certain that you take heed of his years of special experience, knowledge, and advice, but you teach, and you set the standards.

A profession exists for excellence in the art, or it has no real excuse for being. The drive for excellence is the only consensus that can be expected, or for that matter, needed, in a vital profession. Somewhere, somehow, definitive standards will have to be developed. The development and administration of genuine standards form the crucial link in the success of a profession. Standards, to be genuine, must not stultify creativity or hinder the proper use of knowledge and practical skills.

Perhaps the best orientation we could choose for developing professional standards lies somewhere between recreational and scientific diving criteria. We should establish one set of standards for the development of diving skills. The learning progression is the same for both recreational and scientific diving. Credible skill rating standards -- progressing from beginning to advanced diver status -- can only be achieved when the ultimate source of standards is under one disinterested roof.

The credibility of existing certification programs is low because we have mixed commercialism with instruction and have no disinterested professional bearer of our standards. To reverse this sagging credibility, I suggest that the university, as representative of the state, be made the repository for profession-wide standards. Universities, by their very nature and definition, are intended to be universal in function, theory, and application. I further suggest that you, as representatives of the university, are logically and potentially capable of establishing the criteria for

diving excellence. The dedicated educator, within the framework of the university, can keep our certification standards free from state bureaucracy.

Just as economic competition and professional standards are incompatible, so are cut-throat politics and the efficient administration of professional standards. You can avoid one of the traditional mistakes of the academic world by recognizing that a man without a Ph.D. might have had time to develop into a concerned and capable teacher, and that he might, not incidentally, have had the forethought to become a thoroughly competent diver as well. Test him, by all means, but admit him to the ranks.

Educators tend to "develop programs" as a means to professional recognition and advancement. Why not develop standards with authority and merit and let the program develop naturally? It seems to me that standards explain what professional quality and content are, and that once they are instituted and dynamically growing, you never need worry about "developing programs" again. You can simply meet or exceed growing, living standards and succeed.

Should you become a certifying body? Train and accredit within your own ranks, definitely, but in the foreseeable future you cannot expect to duplicate the vast machinery that the YMCA, NAUI, and others have already set in motion. Standard-setting is "your bag" and proper niche. No other agency has the scope and the opportunity for disinterested action in perpetuating quality in a professional setting.

Instructor of Synchronized Swimming

THERESA ANDERSON

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In this discussion, the term synchronized swimming will include also aquatic art and water ballet. There are, however, differences in the three forms:

1. Water ballet consists of groups using background music with little attempt to synchronize the movements with the music.

2. Synchronized swimming consists of a group making precision movements to music. Primary emphasis is on perfection in the execution of stunts and propulsive movement. Attention is given to interpretation of the music, but theme is not mentioned. Synchronized swimming is considered to be in the realm of sports.

3. Aquatic art tends to put more emphasis on theme and less on the perfection of skills and stunts.

All three forms have their good points and make definite contributions to aquatics.

In the past 30 years, synchronized swimming has been found to be one of the finest activities for girls and young women. The activity meets many of the objectives of a good physical education program. It develops neuromuscular coordination, rhythm, proper relaxation, kinesthetic sense of balance and body alignment, and endurance. Synchronized swimming is one of the best activities for body conditioning, and the activity may be enjoyed for many years.

Students in synchronized swimming, as in any other sport, should learn the basic fundamental techniques. If the basic skills

are well learned, the swimmer may progress as far as she wishes. She needs the basics in order to participate in water shows or competition, or just for her own enjoyment. Even if the swimmer does not go far in synchronized swimming, she will still be left with the satisfaction which comes from doing something well.

There is a scarcity of synchronized swimming teachers. During the past three or four years many universities have become interested in having their physical education majors instructed in the correct execution of techniques and stunts so that they will be able to teach synchronized swimming.

During the past two years, DGWS has inaugurated synchronized swimming judges examinations and ratings. The criteria used to award an official rating, a written and a practical test, are similar to those used in other sports, such as gymnastics, basketball, or volleyball. The practical test uses films for judging stunts and routines. Three levels of ratings are possible: national, regional, and local. The level achieved is determined by the grades on the tests. At present, we have about 18 national, 30 regional, and 16 local DGWS synchronized swimming judges.

I would say that the universities are turning out students far more conversant in the correct techniques and skills involved in synchronized swimming than they were three, four, or five years ago. The sport skill concept of synchronized swimming is being increasingly accepted by many universities.

The United States, Canada, Europe, and Japan have all had international synchronized swimming competition, and interest and participation in the activity continue to grow. The United States has also competed in the Pan American Games.

I think that as long as Avery Brundage is President of the International Olympic Committee, synchronized swimming will be excluded from the Olympics because he considers it a show rather than a competitive sport.

The trend in competitive synchronized swimming is away from fancy costumes with gaudily decorated swimsuits and overdone headpieces. The suits and headgear have now been simplified.

For teaching certification in this activity, a DGWS National judges rating might be recommended in addition to two semesters of synchronized swimming activity classes, methods and theory classes, and practice teaching.

Instructor of Water Safety and Lifeguarding

LEONARD WALLACH

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Those of you with an interest in the obscure and a feeling for ancient tales might identify with a bit of religious history that has some bearing on this conference.

If you were an ecclesiastic scholar searching for biographies of early religious figures, your sources would include Butler's Lives of the Saints. In this book, Butler chronicles most of the acknowledged saints and other venerables, three of whom are relevant to our theme: Benedict, Placidus, and Maurs. You probably remember St. Benedict as the founder of one of the first religious communities. I am told that Placidus and Maurs were two of his plebes -- candidates, if you will, for monkhood.

The point of my story concerns the day Placidus went swimming and found himself in difficulty far from shore and in need of help. Happily, Benedict and Maurs were walking past and heard Placidus' faint cries. As you probably know, monastic candidates take vows of poverty, chastity, and obedience -- especially obedience. Benedict ordered Maurs to the rescue, but Maurs protested vehemently that he could not swim. Benedict then instructed him to walk on the water and bring Placidus back to safety. Being of great faith, Maurs indeed walked upon the water, reached down, grabbed Placidus by the hair, and towed him safely to shore.

This miracle later helped make Maurs eligible for sainthood, and to Benedict came eggs, wine, and sainthood. But of greater importance were the precedents set in the art of lifesaving. Benedict was probably the first water safety instructor and Maurs the first inadequately trained lifeguard.

Of paramount interest to all of us is the assumption that the two skills -- walking on water and carrying by the hair -- were effective in lifesaving. Some of you may swear by both of them, but this anecdote points to that fact that we need to develop and test reliable skills and not accept them merely because they work for some.

Another dilemma is the quality of the instructor. No one would question the character of Beendict, but why have we been so reluctant to criticize instructor preparation? Is it because we feel it would be an attack on us as individuals? Perhaps we are defensive about this subject because we feel that the basis for our status in the aquatic community is being threatened.

An offshoot of this problem is to question why such extremes developed in instructor and lifesaving programs in the first place. Some people seem to let their technical excellence take command of their wits. They have become intensely keen on developing exquisitely trained, high-risk, totally dedicated rescue corps. Others are complacent and let even minimal standards become fuzzy. In this type of program everyone just gets by.

Pride of authorship creates another paradox. Well-qualified professionals state their views which inspire either strong loyalties or strong antagonisms. It is so easy to evaluate programs subjectively.

It also is too easy to build a new approach on a shaky base. The difficulty with building a new base is that it puts all of us, or certainly most of us, in jeopardy one way or another. As we begin to probe and challenge, some may feel it is too little too late. Others may not want to destroy the old before there is something new, in spite of the fact that maybe the old isn't as good as they would like it to be. However, we do need a good base!

The credibility of certifying systems is seriously under question, as are the agencies and subagencies that control the certification. You could take that idea even farther. Some of you feel privately that the individuals sitting in positions of trust and authority in these matters may leave something to be desired in their own professional development. But you can't express that kind of criticism because it implies a hostile, nonprofessional attitude. But you must recognize this: Any system, any organization, any program, or any certificate is only as good as its people!

Perhaps you think we should proceed more cautiously in focusing on this people-related problem. But it seems to me that if we are to lead, and if we have people problems, we need to be as objective about them as we are about the skills and knowledge of our subject. We've been preaching objectivity for years; it is

the point of pride in our unique profession. It's only human to be defensive against criticism, but -- and sometimes "but" is a big word. The time is long past due to look objectively at our personnel resources -- to look at ourselves and bear down on our shortcomings -- to reexamine our talents, knowledge, and basic goals. And it is necessary to insure, for all of us, that our motives are unquestionable.

Are we in need of a certifying device for instructors and lifeguards? That's like asking if we need a blood test for marriage; everyone would agree that a test would be a good idea, but when we get right down to the hard core problems and the necessary solutions, it's hard to find a bride -- but easy to find a mother-in-law. In other words, it's hard to find pleasure but easy to find criticism. So, which of you wants a new mother-in-law?

Yes, we need a professional system, or rather a professional recognition and regulatory device. It must face issues and provide goals to work toward, and not merely a device for another award. Awards soon become the goal, rather than the achievements in education and ability that they represent.

But what do you want an instructor, or for that matter, a lifesaver, to be? What does an instructor teach? How much latitude should he have? It's very easy to get trapped into program loyalties or program prostitution. In other words, it is easy to dilute a subject area with too many personal opinions; yet it's hard to teach something that just doesn't hold up to scientific examination.

However, both of these problems creep into the prescribed courses. In lifesaving and survival, there are some fantasies being perpetuated in the name of education and experience. But when you start your teaching career, you don't doubt your original sources, Doc Councilman once said, "If you find your ideas under question and you can't defend your ideas, you better get new ideas. . . ." Maybe we should begin to view our ideas more skeptically. However, could we, as professionals, afford that kind of latitude in such a disciplined activity?

Certainly, the day of merely standing heroically on the deck is quickly diminishing. The younger candidates in our profession are vastly better prepared than we were. Their feelings about personnel qualifications and lifesaving standards are much more demanding. Cal Bryant, who chronicled one of the first water safety textbooks, wrote the following in a dedication note, "This book hasn't gone far enough . . . it needs to be turned over to younger and better hands."

Yet do we really listen to what these young people say? Some of them feel that there are really many levels of instructorship, and that it is ridiculous to force a top aquatic educator to submit to periodic reviews of basic skills and instruction techniques. I know of one situation in which a great aquatic educator -- an international water polo coach -- was not recertified as an instructor until he submitted to review training from a former student of his

who just happened to represent the certifying organization -- that may sound ludicrous to you. I know of another man who coached two Olympians and also taught basic swimming courses for a second income. He was denied recertification because it had lapsed for one year -- the year his swimmers were peaking! The younger people see these inequities as correctable.

You have seen many extremes occur under the letter of the law, but that's not what we are looking for; we want a reasonable, intelligent analysis of the problem -- there is always a way around the letter of the law.

Some of you may equate the present certification systems in water safety and lifesaving with those of a barber college. The sacred word "standard" becomes the rallying point where bloody battles ensue. Organizations and individuals deny that they are competing with each other. They cite their volunteer and public service roles to opt out of their indirect regulatory role. We have permitted their programs to be a base because there has been no other, and now we are in the process of trying to do something about it. I invite you to ponder for a moment on the solidarity of our base. . . .

This is not an attack on anybody -- and certainly not a probe into sore feelings. It is an appeal for a realistic analysis of the validity of our training and the data, skill, and structure of our base.

If, for example, this conference concludes that we need a guild, an approving group, a union, or some august body that decides which program or certificate meets a basic core requirement, then well and good. However, that will not relieve us of the pressure to ensure that each certificate is genuine in its representation of individual performances. And, most importantly, we must be sure that the skills and data used for certification are effective and reliable.

The report on lifesaving recognized our struggle with major conflicts, such as those involving legal and liability frustrations and assumptions on facilities and people.

It seems to me that if we look for a theme or a message, or if we intend to implement the ideas of this conference, it is to translate our thousands of words into action. But do we really intend to be self-analytical and self-policing? If we do, it's like the old Japanese proverb, "Don't send a cat to guard the milk." We're the cats and aquatics is the milk. If this comparison bothers you, that's a good indication of what some people are feeling when they are on the receiving end of our services.

One of the required topics for this portion of the conference is: "What is the creditability of existing certification programs in this specific area?" My concluding remarks have been designed to probe at that point:

1. Are we really doing a good job at the basic levels?
2. Are our information and skill banks valid?
3. Are we practicing some self-deception in not acknowledging that we have some people problems in our technical leadership?
4. Are we victims of a certification stranglehold -- privately opposed to it, but seeing our own people caught by the need to hold a certificate for employment reasons?
5. Is all of this important compared to other demands on our profession?

I don't know how the rest of you feel, but I'm going back to my program a bit more aware of the problems, yet also a bit more enthusiastic, primarily because of my associations with the people at the conference.

Instructor of Aquatic Facilities Management

DAVID G. THOMAS

State University of New York
Binghamton, New York

There is a need for the education of public and institutional swimming pool operators in the United States. To meet this need, professional aquatic educators must be trained to teach the students who plan to make their careers in aquatics.

There are approximately 240,000 swimming pools in the U.S. which can be classified as public facilities. The operation of these facilities has been of growing concern to the U.S. Public Health Service, which is responsible for seeing that the pools are operated under safe and sanitary conditions.

Municipal water supply facilities operators are carefully trained to meet exacting standards of water quality and are required to be licensed in many states. They deal with a tightly closed, protected distribution system within which the water should never be exposed to contamination until it reaches the tap of the consumer. The water quality is subjected to continuous automatic recording control and is watched carefully 24 hours per day.

The USPHS requires the same exacting bacteriological purity for swimming pool water in spite of the fact that it is subject to continuous pollution from bathers, from the atmosphere, and from the soil. In addition, the quality is tested only two or three times per day; the water is left unattended for many hours each night, and the operators are not required to have any training at all. This is a very illogical situation.

Surveys show that the USPHS has good reason to be concerned. Of 193 pools checked in a recent survey, 105 failed to have the required residual disinfectant and 106 did not have pH values within the accepted limits. Eighteen percent showed the presence of Coliform bacteria or were unsatisfactory on membrane filter tests. Many of the operators had little or no understanding of the significance of their work; and many monthly reports were found to be filled out days in advance.

The USPHS has indicated a desire to require certification or licensing of public pool operators, but has had neither the manpower nor the prepared text with which to teach a course for licensing.

The Council for National Cooperation in Aquatics and the National Swimming Pool Foundation have addressed themselves to this problem; and a text, instructor outline, and visual aids package have been prepared under the auspices of the NSPF to serve as a basis for courses leading to certification of pool operators.

Now teachers are needed to conduct courses from the new text, and the professional aquatic educators are the logical vehicle through which the information should be disseminated to the students who will be the operators and administrators of the aquatic facilities in the future.

Indeed, a tremendous need exists for the in-service training of the current facilities operators who were not able to get such training in their physical education schools.

The need for certification standards in the field is adequately documented. The NSPF and CNCA are striving to meet the need. Professional aquatic educators must recognize their responsibility to carry out the program.

There have been attempts in some areas to offer courses leading to certification as "pool operators," but these courses have been uncoordinated, lacking in content, and tremendously varied in subject matter throughout the country. Only in such programs as the Aquatic Option at the University of Oregon has there been an attempt to include such things as programing, personnel problems, and budgets and finances in the course content for facilities operators. Unfortunately, only a few such programs exist whose courses are complete enough to warrant aquatic administrator status, and even these sometimes have been lacking in the specific subject of facilities operation for clear, pure water.

The National Sanitation Foundation is working to develop a certification program using the materials developed by NSPF, particularly its text entitled, Swimming Pool Operators Training Manual.

I believe it is correct to say that at the present time there is no satisfactory certification program in existence.

It is my suggestion to this group that we go on record as supporting the efforts of the CNCA, NSF, and NSPF as they relate to certification of facilities operators.

In addition, I believe we should recommend that all aquatic educators and all students selecting an option as an aquatic administrator or aquatic specialist be required to obtain certification in the forthcoming NSF-NSPF program rather than trying to develop our own certification in this area.

In the event the NSF-NSPF program does not reach its goal in the near future, this body could reexamine the problem and recommend its own standards.

Aquatic Administrator

FRED A. STETSON

Aquatic Director
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After giving much consideration to a method of certification for the aquatic administrator, I feel the best approach would be to accredit the programs offered by various colleges and universities. The accreditation of programs should be followed by the establishment in each state of certification standards for the aquatic administrator using the guidelines prepared by this conference for AAHPER.

The standards should represent the basic understanding and competencies without which no individual should be allowed to become an administrator.

I should like to make it clear that these standards do not apply to persons now in service; rather the recommendations are designed for future administrators.

I realize there may be other methods to reach the goal of certification, but it seems to me that we should work within the framework of present state certification procedures to accomplish our goal.

Professionally prepared leadership is the key to success in all aspects of aquatic education.

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